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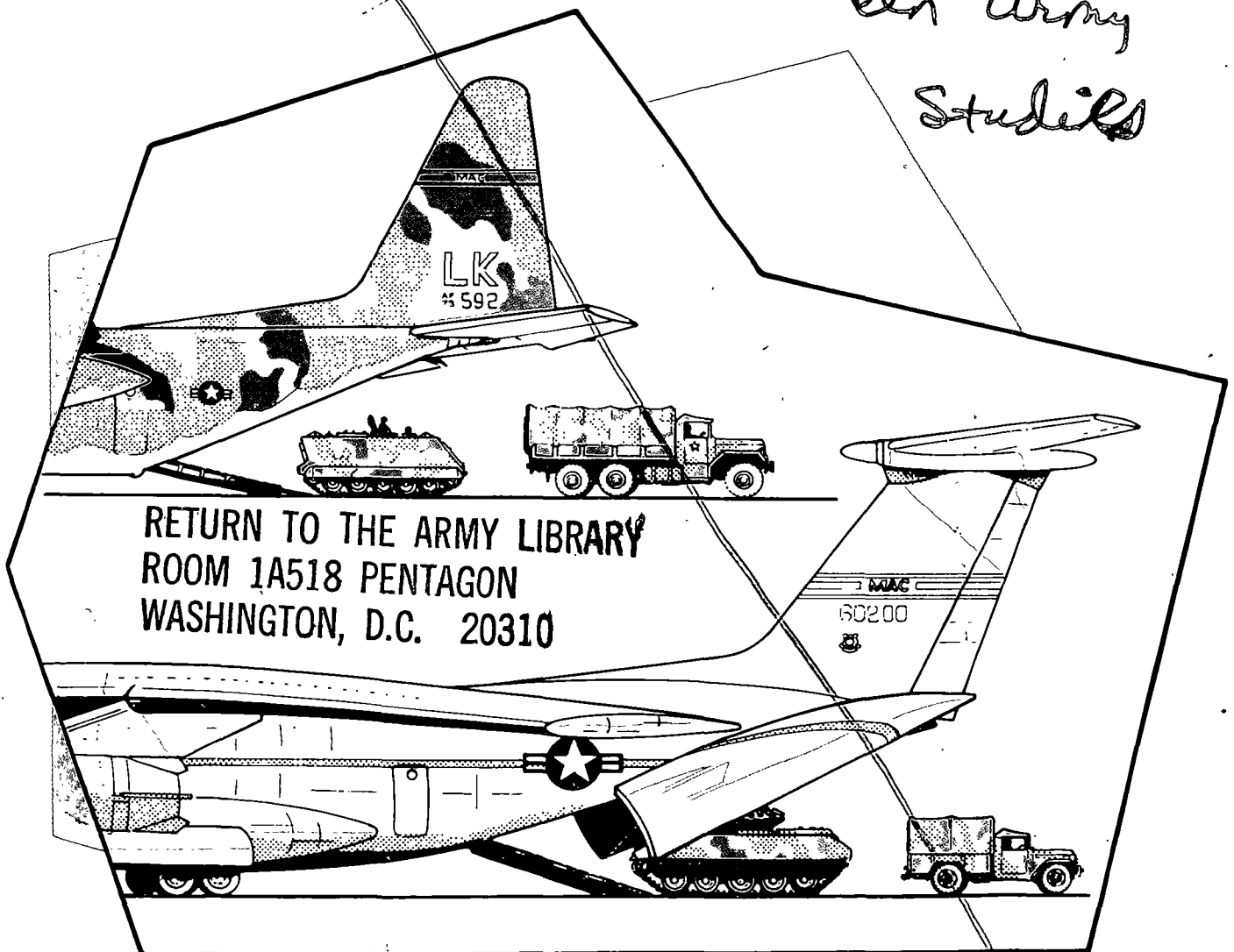
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MOVEMENT OF UNITS IN AIR FORCE AIRCRAFT

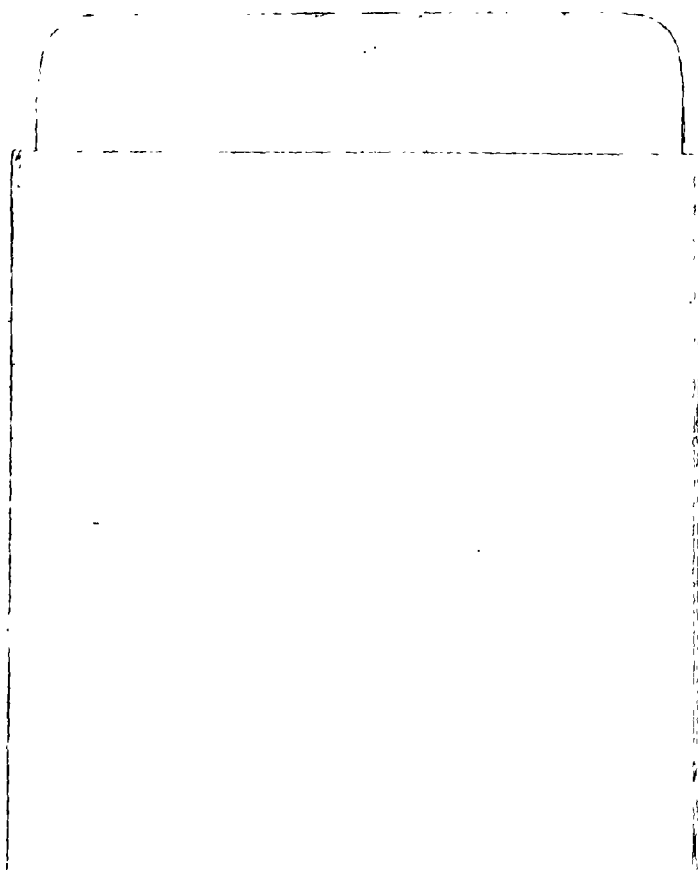
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HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1978



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PREFACE

This manual provides guidance for US Armed Forces involved in unit movement on US Air Force aircraft or commercial augmentation aircraft. It outlines the organization, functions, and responsibilities of departure airfield control groups/arrival airfield control groups (DACG/AACG) and their interface with Air Force airlift control elements (ALCE). It gives information on basic principles, approved methods and techniques used for load planning, cargo preparation, cargo and troop documentation, airlift and special equipment requirements. The Air Force has overall responsibility for operation of Air Force air terminals; therefore, Joint Services Regulation AR 59-106/AFR 76-7/OPNAV INST 4660.1/MCO 4660.1 overrules this manual in connection with handling and moving traffic on Air Force organic or Air Force contracted aircraft through air terminals of the Air Force.

This manual applies to training exercises, wartime, and contingency operations.

The terms used in this manual conform with standard joint definitions as expressed in JCS Pub 1, JCS Pub 15, AR 310-25, AR 310-50, AFM 11-1 (Vol I), and AFM 11-2.

For Air Force units, the information for establishing departure/arrival airfield procedures contained in this manual is intended as a general guide. These procedures are normally accomplished by the mobility control center/transportation control unit. Specific internal Air Force procedures for deployments, reception, and redeployments on an Air Force base may be found in Air Force Mobility Regulations (AFR 28 series - USAF War Planning), as supplemented by each major command.

References are contained in appendix A and should be used in conjunction with this manual. Definitions of terms used in the text are provided in the glossary.

The prescribed forms in this manual are available through normal publication channels of the respective services.

This manual will be changed when revision of the referenced publications significantly affects its broad guidance. It will also be changed when required by new policies and developments. Users of this publication are encouraged to report errors, omissions, and recommendations for improvement. Comments should be keyed to the specific page, paragraph, and line of the manual in which the change is recommended. Comments from Army elements should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commandant, US Army Transportation School, ATTN: ATSP-TD-LIT, Fort Eustis, Virginia 23604; comments from Air Force elements should be forwarded on AF Form 847 (Recommendation for Change of Publication) through their respective commands to Headquarters, USAF/LGTN, Washington, DC 20330; comments from Navy elements should be submitted to Chief of Naval Operations (OP-405), Washington, DC 20305; comments from Marine Corps elements should be submitted to Commanding General, Marine Corps Development and Education Command, Quantico, Virginia 22134. Recommendations which pertain to changes to and corrections of doctrine, policy, and/or significant procedural matters must be staffed and approved by the respective services prior to submission.

MOVEMENT OF UNITS IN AIR FORCE AIRCRAFT

Contents	Page
CHAPTER 1. RESPONSIBILITIES	
Departure Airfield Control Group (DACG)	1-2
Arrival Airfield Control Group (AACG)	1-2
Airlift Control Element (ALCE)	1-2
Unit Responsibilities	1-2
CHAPTER 2. CONCEPT OF OPERATIONS	
Phases of an Air Movement Operation	2-2
Control and Coordination	2-2
Missions and Functions	2-2
Support to be Provided	2-5
CHAPTER 3. PLANNING AND PREPARATION	
Mission Guidance	3-2
Initial Planning	3-2
Joint Planning Conferences	3-4
Preparation for Movement	3-6
Final Coordination	3-16
CHAPTER 4. EXECUTION	
Departure Airfield Operations	4-2
Arrival Airfield Operations	4-6
CHAPTER 5. SUPPORT FUNCTIONS	
Security	5-2
Communications	5-3
Safety	5-3
Hazardous Materials	5-6
Automatic Data Processing	5-6

*This manual supersedes FM 55-12-AFM 76-6, 30 April 1974.

CHAPTER 6. DEPLOYMENT UNDER WARTIME CONDITIONS	6-1
APPENDIX	
A. REFERENCES	A-1
B. UNIT MOVEMENT OFFICER	B-1
C. AIRCRAFT LOAD PLANNING	C-1
D. LIAISON DETACHMENTS OF TRANSPORTED UNIT	D-1
E. INSPECTION CHECKLIST	E-1
F. PREPARATION OF EQUIPMENT AND SUPPLIES	F-1
G. CENTER OF BALANCE DETERMINATION	G-1
H. SPECIAL HANDLING DOCUMENTATION	H-1
I. DEPARTURE AIRFIELD CONTROL GROUP (DACG) CHECKLIST	I-1
J. MARSHALING	J-1
K. ARRIVAL AIRFIELD CONTROL GROUP (AACG) CHECKLIST	K-1
GLOSSARY	Glossary 1

Chapter 1

RESPONSIBILITIES

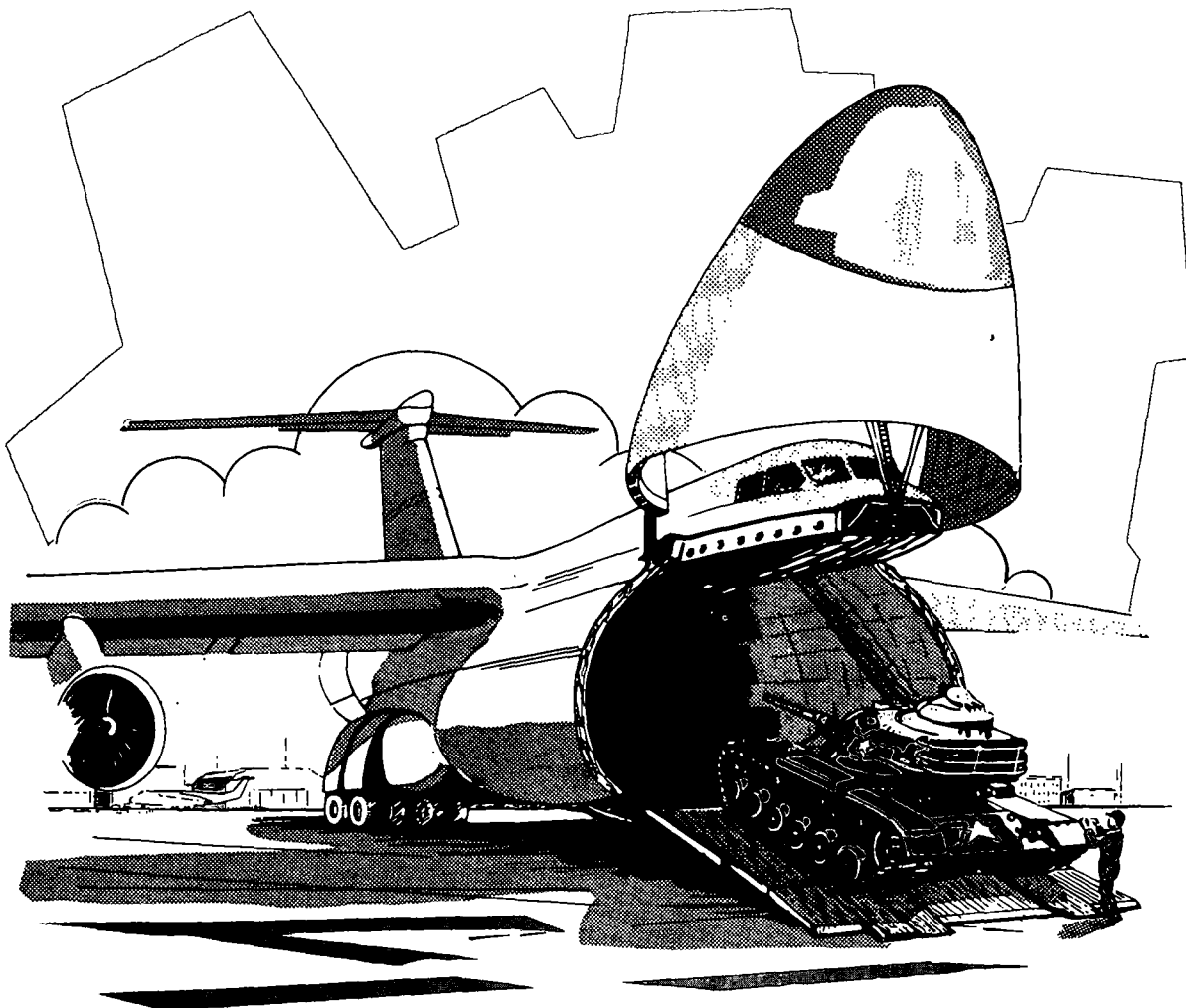
The policies outlined in this manual pertain primarily to airlanded operations; however, since preparations for airborne operations are basically similar, all marshaling and outloading procedures will be conducted essentially in the same manner. Conduct of a unit air movement requires careful planning of loads, selection of equipment, and processing of personnel. It requires marshaling of transported units, airfield reception, outloading procedures, and the reception and disposition of forces at the offload airfield. These tasks are the responsibility of the transported unit, its parent organization or installation/base, the departure/arrival airfield control group (D/AACG), and the Air Force airlift control element (ALCE)/mission support team (MST). This chapter covers:

DEPARTURE AIRFIELD CONTROL GROUP (DACG)

ARRIVAL AIRFIELD CONTROL GROUP (AACG)

AIRLIFT CONTROL ELEMENT (ALCE)

UNIT RESPONSIBILITIES



DEPARTURE AIRFIELD CONTROL GROUP (DACG)

The major commander of the service whose units are scheduled for movement by Air Force aircraft is responsible for providing the DACG. The parent organization or home station installation/base commander from which the deploying units originate provides the necessary personnel and equipment to accomplish the DACG functions.

Sometimes more than one service is scheduled for simultaneous movement through the same aerial port of embarkation (APOE). When this occurs, the supporting unified command/joint task force commander will designate the service component responsible for operation of the DACG. The service with the largest movement requirement spanning the whole period of deployment from the APOE will normally get this job. The DACG will coordinate with the installation/base commander and the commander of the other services' deploying units.

Responsibility for redeployment rests with the designated forces commander.

ARRIVAL AIRFIELD CONTROL GROUP (AACG)

The forces commander involved in the air movement is responsible for providing the AACG if the necessary personnel and equipment to accomplish the arrival function are not available at the arrival airfield. In such an event, the AACG will be prepositioned at the arrival airfield or included in the lead elements of the deploying units.

If adequate personnel and equipment of the applicable service are available at the arrival airfield, the commander of this unit, installation, or base (as the case may be) will provide the AACG.

Determination of the above will be made at the earliest practicable time by the joint forces commander or appropriate commander responsible for the deployment or redeployment mission.

AIRLIFT CONTROL ELEMENT (ALCE)

An airlift control element (ALCE) normally will be established to support an airlift operation. The Air Force is responsible for the airlift operation at airfields where military forces are assembled for deployment or redeployment by Air Force organic and contracted aircraft. When an ALCE is not assigned, an equivalent Military Airlift Command (MAC) unit or mission support team (MST) may be assigned and be responsible for the airlift operation; therefore, when the term "ALCE" is used herein it applies equally to any equivalent Air Force organization or team in such a situation.

Where more than one DACG is established, the DACG will interface with the MAC ALCE at a common point designated by the ALCE.

UNIT RESPONSIBILITIES

Detailed responsibilities of participating organizations and agencies are outlined for each functional area discussed in the following chapters and appendixes.

CONCEPT OF OPERATIONS

An air movement operation involves the air transport of units, personnel, supplies, and equipment. It includes airlanded operations, airborne operations, air assault, low altitude parachute extraction system (LAPES) operations, container delivery system, and heavy equipment drop operations. Air movement operations also cover related tactical and administrative movements. A movement by other modes of transportation may precede or follow air movement.

The conduct of an air movement operation requires that participating forces be properly integrated to achieve a common objective. Air movement operations may be conducted by any combination of force organizations. The operation may include a unified command, a subordinate unified command, a joint task force, or a uniservice commitment. Planning for the operation must include provision of forces to support the staging and outloading of the airlifted force. Continuous coordination between the transported unit(s), the transporting unit(s), and other supporting activities is necessary. This chapter covers:

PHASES OF AN AIR MOVEMENT OPERATION

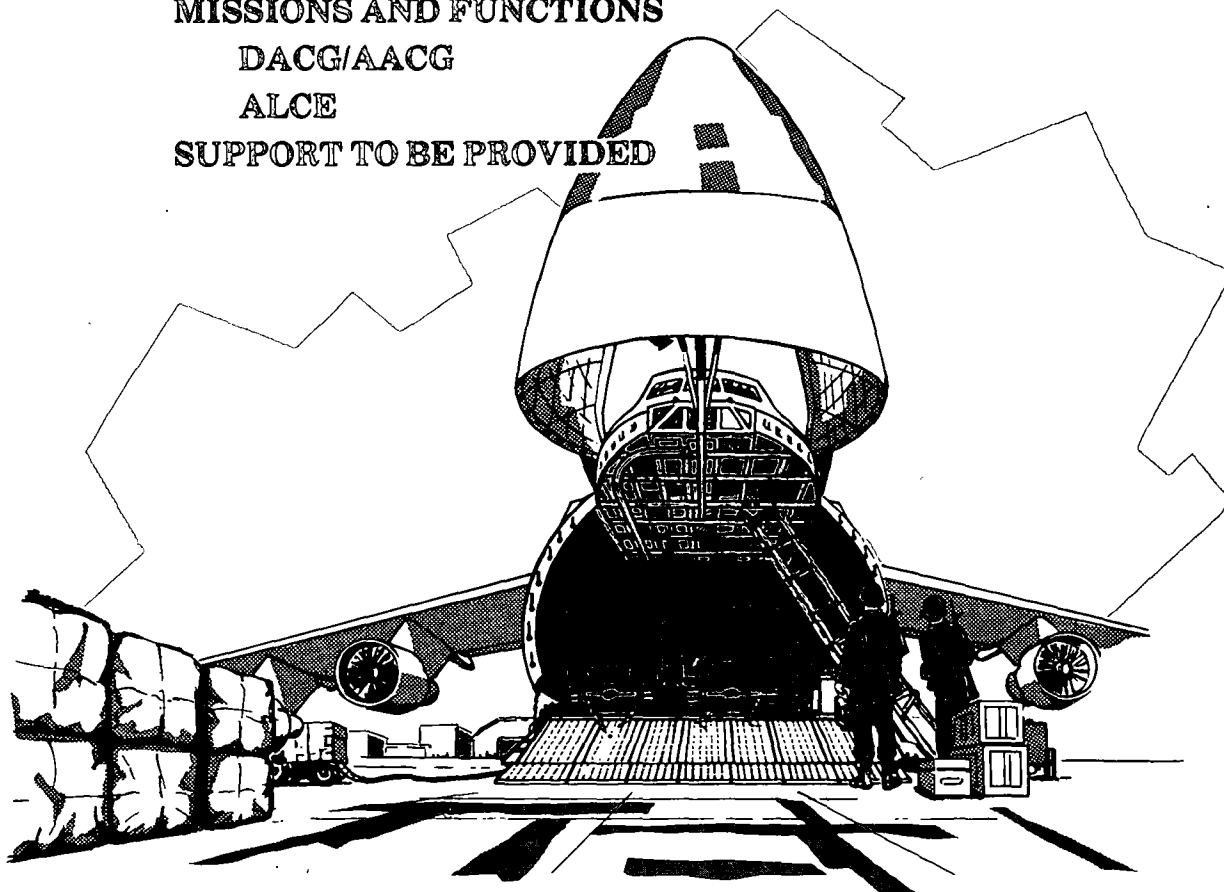
CONTROL AND COORDINATION

MISSIONS AND FUNCTIONS

DACG/AACG

ALCE

SUPPORT TO BE PROVIDED



PHASES OF AN AIR MOVEMENT OPERATION

The conduct of an air movement operation consists of two primary phases. These are the planning and preparation phase and the execution phase. Each of these two phases is divided into major functional areas. The five functional areas of the planning and preparation phase are:

- Mission guidance
- Initial planning
- Joint planning
- Preparation for movement
- Final coordination

The two functional areas of the execution phase are:

- Departure airfield operations
- Arrival airfield operations

CONTROL AND COORDINATION

Air movement operations require close control of all participating units. They also require close coordination of the many inter-service activities. The Air Force will exercise overall control of the airlift operation at the departure and arrival airfields. Airlift resources will, at all times, remain under the operational control of the Air Force. The resources of the deploying unit are initially under the control of the unit commander. Control of resources is passed to the departure airfield control group (DACG) at the Army, Marine Corps, or Navy alert holding area, or the Air Force marshaling area. Finally, control of resources is passed to the Air Force at the loading ramp area ready line. Control of the resources goes back to the unit commander upon release by the arrival airfield control group (AACG) at the arrival airfield. The Air Force will establish an air operations center (AOC) at both departure and arrival airfields. The AOC provides a means for control and operation. It provides a jointly manned facility for the exchange of information relating to the progress of the operation. All information affecting the loading and offloading operations

will be funneled through the AOC. Each of the principal representatives in the AOC will have continuous communications with the activities of their organizations as outlined in chapter 5.

MISSIONS AND FUNCTIONS

Departure/Arrival Airfield Control Group (DACG/AACG)

The mission of the DACG is to coordinate and control the outloading of units for deployment or redeployment. The DACG should be organized as a provisional unit. Personnel and equipment resources come from units or activities which are not required to accompany the transported force. It must be manned for one-, two-, or three-shift operations, as indicated by the mission.

The mission of the AACG is essentially the same as the one for the DACG, except that the AACG is primarily concerned with the offloading operations. If practicable, the AACG will be prepositioned at the arrival airfield; otherwise, it will move to the arrival airfield in the lead elements of the transported force.

The DACG and AACG must be structured to provide essential support for the transported force. As a minimum, each group consists of a command and an operations element, and other administrative and support personnel as determined by the size and scope of the operation. The DACG or AACG is the transported unit's point of contact with the Air Force ALCE at the departure or arrival airfield. Commanders of units and/or installations who have a directed or implied contingency mission involving an air movement operation should continuously identify, maintain, and train the personnel who will staff a DACG or AACG organization. They must insure that the responsibilities can be fully carried out on a short-notice basis. Where practical, a survey of the marshaling/outload area should be accomplished by DACG and AACG. The survey will provide current and accurate information on facilities available and support consideration required.

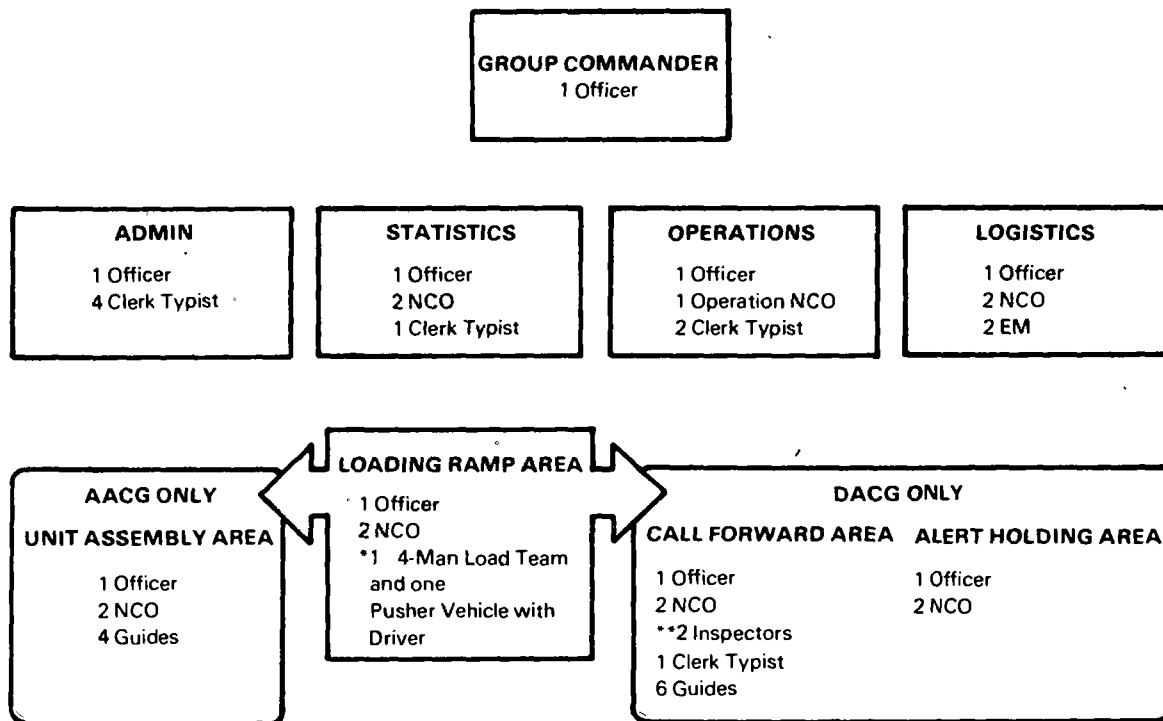
All personnel responsible for supervision of the outloading must be thoroughly familiar

with the loading procedures applicable to the types of aircraft to be loaded. It is also desirable that they be formally trained in air movement operations. Such training, titled "Air Transportability Planning Course," is available on a regular basis at the US Army Transportation School, Fort Eustis, Virginia.

Designated DACG/AACG personnel must undergo appropriate training in preparation for carrying out their functional respon-

sibilities in support of an air movement operation. Supporting references for such training are Army Technical Manuals 55-450-10/1 (AFM 76-3), 55-450-10/2 (AFM 76-4), 55-450-15; Army Field Manuals 55-13 (AFM 76-12), 55-19 (TEST); and Technical Bulletin 55-46-1. Periodic rehearsals and Joint Airborne/Air Transportability Training (JA/ATT) are particularly helpful where personnel turnover is a significant factor.

RECOMMENDED DACG/AACG MANNING TABLE FOR ONE 12-HOUR SHIFT



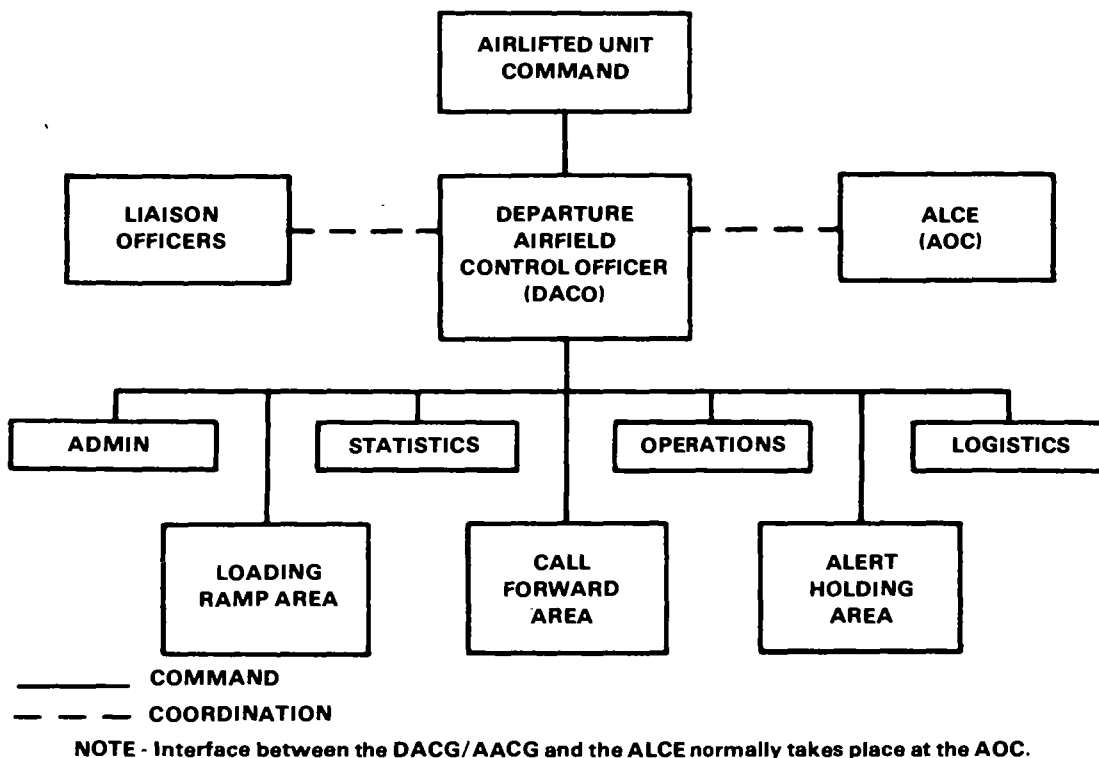
RECAP OF PERSONNEL

	DACG	AACG
Officers	8	7
Enlisted	29	22

*Not included under RECAP of personnel. Number of teams required will depend on the number of aircraft being loaded at any one time.

**Qualified to certify hazardous loads.

DEPARTURE/ARRIVAL AIRFIELD CONTROL GROUP FUNCTIONAL STRUCTURE



Airlift Control Element (ALCE)

The ALCE is an element of the Air Force command and control system. An ALCE is employed when required at departure, en route, and arrival airfields used by the airlift units. The mission of the ALCE is to plan airlift control operations for a given base, to survey the facilities of the base, and to control, coordinate, and report airlift operations at that base.

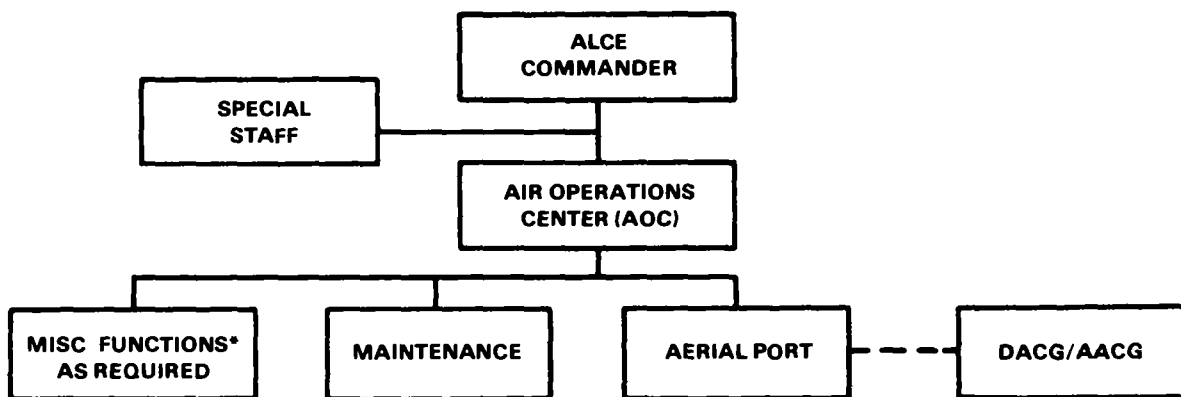
The ALCE maintains operational control over Air Force airlift units and all airlift aircraft participating in an operation at the ALCE site. The ALCE coordinates all Air Force operational aspects of the airlift mission. It is responsible for aircraft movement control, communications, technical supervision of loading and offloading operations, aeromedical evacuation, and marshaling of aircraft. It provides continuous liaison with all interested

agencies to insure that the operation is proceeding according to plan.

In situations where a complete ALCE is not required, a mission support team (MST) will provide the air movement coordinating activities of an ALCE. The MST is relatively small, but will be capable of performing aerial port, maintenance, and related support functions.

The ALCE procedures contained in this manual are to familiarize the deploying unit and DACG/AACG with the functions and assistance normally provided by an ALCE. These procedures are limited to the aerial port functions of an ALCE that impact on mission planning, preparation, and execution of airlift operations. A complete description of ALCE planning considerations is contained in Military Airlift Command Regulation (MACR) 55-25. The following illustration shows a typical ALCE organization. All areas shown are not required for every operation.

TYPICAL ALCE ORGANIZATION



*Weather, flight surgeon, safety, information, intelligence, combat tactics, combat control, etc.

SUPPORT TO BE PROVIDED

The following support may be required by the ALCE from the departure airfield/arrival airfield/installation commander:

Office space

Work centers

Communications

Aircraft parking area

Billets

Cargo marshaling area

Vehicles, materials handling equipment (MHE), and vehicle maintenance

Food service

Medical service

Flying and ground safety

Security

Air terminal facility (passenger)

Cargo breakdown/buildup storage area

Fire and crash rescue

For Army and Air Force units, the home station installation, in coordination with the installation transportation officer or traffic management office is responsible for planning and executing the physical movement of its units. They insure that each organizational element establishes a unit assembly or mobility processing area and provides liaison to the DACG well in advance of the arrival of the unit. Plans should also provide for similar liaison to the AACG.

For Army and Air Force units, the home station installation staff provides the following staff services required to support the air movement operation. Responsibility may vary by service.

G-1/Administration and Personnel Services

- Provides personnel for administrative preparation for the movement.
- Provides personnel for the liaison detachments.
- Assists transported unit S-4 (Supply Officer) in the preparation of manifests, including automatic data processing (ADP) support.
- Provides personnel services during marshaling and movement planning.

G-2/Intelligence

- Provides intelligence support and is prepared to assist where needed during the marshaling and movement phase.

G-3/Operations and Training

- Coordinates air movement training.
- Establishes communication as necessary.
- Prepares plans and orders for tactical movement.
- Assigns marshaling area(s).

G-4/Logistics

The staff acting for the G-4/Logistics Officer:

- Consolidates, validates, and forwards movement requirements.
- Prepares and disseminates necessary plans and orders for administrative movement.
- Supervises preparation of unit aircraft loading plans.
- Publishes an air movement/mobility plan applicable to the deploying units.
- Exercises staff supervision for unit marshaling plans and activities.
- Supervises the development of the marshaling plan.
- Establishes requirement for, requests and coordinates, logistical support.

- Supervises preparation of equipment and supplies for air movement.
- Insures establishment of unit marshaling areas and coordinates support as required.
- Prepares schedules for movement from unit marshaling areas to the alert holding area as coordinated with the DACG.
- Provides staff supervision in preparation of manifests.
- Procures and supervises augmenting transportation when required.
- Establishes liaison for continuous coordination with the DACG.
- Supervises procurement of required shoring/floor protection materials and 463L dunnage.
- Coordinates for use of required ADP Support.
- Assists G-3/Operations and Training in the preparation of plans and orders for a tactical move.
- Exercises overall staff supervision of the entire DACG/AACG operation.

For Marine Corps and Navy units, the support described on the preceding pages will be provided by the parent organization or command.

Chapter 3

PLANNING AND PREPARATION

As previously stated, the conduct of an air movement operation consists of two primary phases -- the planning and preparation phase, and the execution phase. The five functional areas of the planning and preparation phase were also mentioned. This chapter provides detailed information on each of the five functional areas of the planning and preparation phase. These functional areas are:

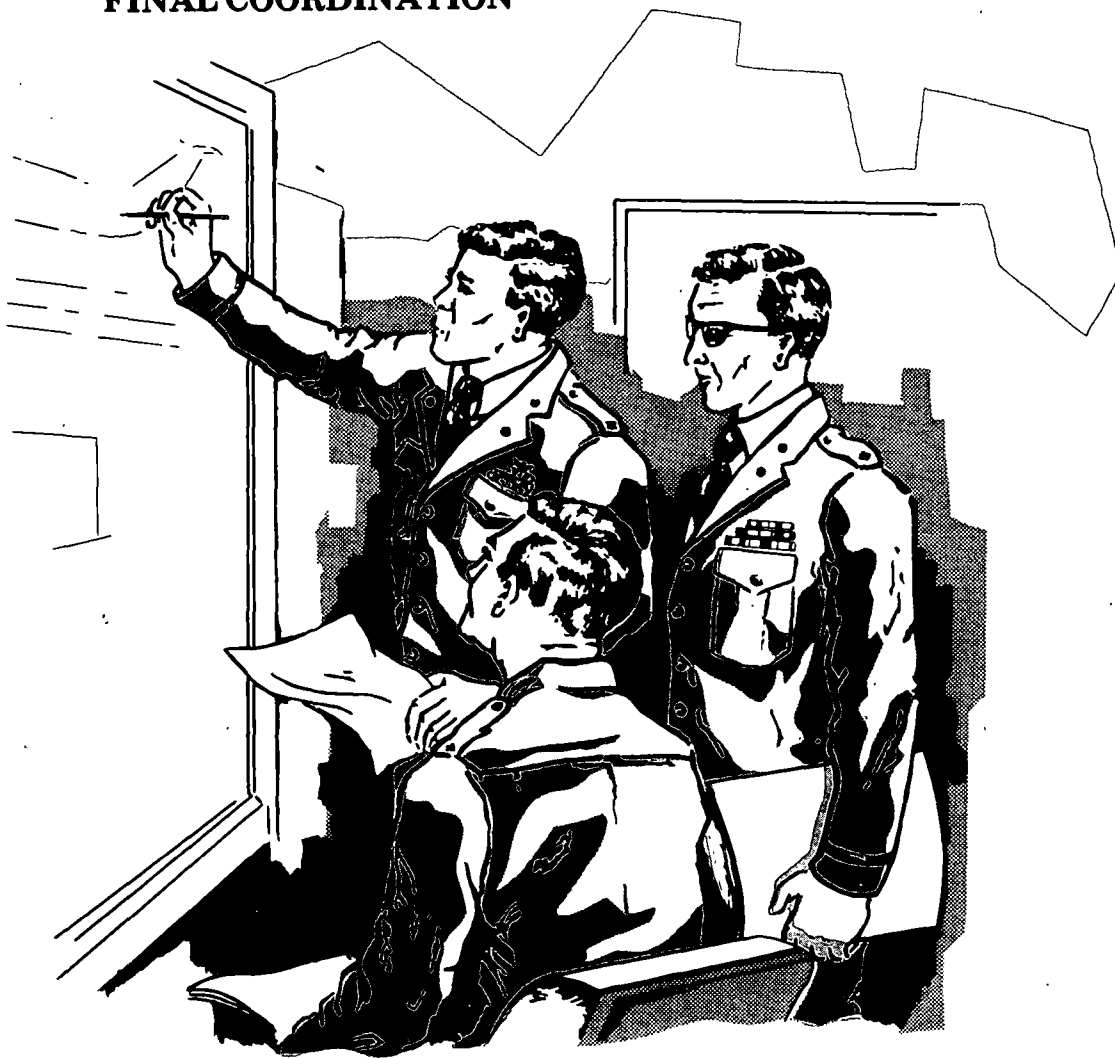
MISSION GUIDANCE

INITIAL PLANNING

JOINT PLANNING CONFERENCES

PREPARATION FOR MOVEMENT

FINAL COORDINATION



MISSION GUIDANCE

The deploying unit commander and all supporting forces require the following information to prepare for an airlift operation:

Mission.

Force.

Location of departure airfield and arrival airfield.

Departure date.

Projected closure time.

Liaison, including the names, location, and telephone numbers of the deploying unit commander(s) and commanders of DACG, AACG, ALCE, and other supporting activities.

Mutually agreed time and location of the joint planning conference.

Planning guidance for airborne operations is contained in FM 57-1/AFM 2-51.

INITIAL PLANNING

Actions necessary to prepare the deploying unit and support elements to participate in the joint planning conference include:

Deployment Planners and/or Deploying Unit

The deployment planners and/or deploying unit will:

- Identify the number of personnel and type and quantity of cargo and equipment to be moved.
- Establish priorities for arrival.
- Establish liaison with the supporting ALCE, DACG, AACG, and others.
- Identify cargo or equipment in its proposed shipping configuration which, because of its size, weight, or fragile or hazardous

characteristics, may be denied loading aboard Air Force aircraft, or will require special equipment or handling. Cargo or equipment will be reviewed as a potential problem item for transport in Air Force aircraft when any one of the following conditions are exceeded:

Length - 20 feet (6.10 m).

Width - 8 feet (2.44 m).

Height - 8 feet (2.44 m).

Weight - 20,000 pounds (9,072.0 kg).

Weight per linear foot - 1,600 pounds (725.8 kg).

Floor contact pressure - 50 psi (pounds per square inch) (3.53 kg per square centimeter).

Maximum axle load (vehicle with pneumatic tires) - 5,000 pounds (2,268.0 kg).

Maximum wheel load (vehicle with pneumatic tires) - 2,500 pounds (1,134.0 kg).

Any item which requires special equipment procedures for loading in an aircraft; e.g., helicopters, tracked vehicles, pallets, etc.

- Identify cargo or equipment that is hazardous and/or sensitive, and requires special preparation (AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D).

- Request technical assistance for preparing equipment and training personnel. Technical assistance can be obtained in CONUS from the MAC airlift wings or ALCE's located at Charleston AFB, SC; Dover AFB, DE; Dyess AFB, TX; Little Rock AFB, AR; McChord AFB, WA; McGuire AFB, NJ; Norton AFB, CA; Pope AFB, NC; and Travis AFB, CA. In oversea areas, assistance can be obtained from ALCE's at Clark AB, PI; Kadena AB, Japan; Hickam AFB, HI; Rhein-Main AB, Germany; Yokota AB, Japan; and MAC aerial port units. This technical assistance generally includes:

1. MISSION PLANNING

- ☐ Instructions for preparation of cargo and equipment for movement, including hazardous or sensitive materials.
- ☐ Instructions for preparation of personnel for movement.
- ☐ Instructions for documentation and manifesting.
- ☐ Aircraft load planning, including center of balance (CB)* computations for cargo and equipment to be loaded, aircraft balance, specific aircraft data, cargo and equipment restraint requirements, sectionalization and disassembly requirements, and shoring requirements (responsibility of deploying unit).
- ☐ Planning assistance for type aircraft required, number of sorties, and unique loading requirements. Army Technical Bulletin 55-46-1 provides a standard reference in developing movement requirements for unit moves.
- ☐ Safety.

2. AIRCRAFT LOADING

- ☐ Preloading preparation and inspection.
- ☐ Detailed loading procedures for both personnel and equipment.
- ☐ Application of restraint devices.
- ☐ Application of shoring materials, if required.
- ☐ Safety.

3. AIRCRAFT OFFLOADING

- ☐ Removal of restraint devices.
- ☐ Removal and disposition of shoring materials.
- ☐ Safety.

*Also referred to as center of gravity (CG).

- Plan and coordinate staff assistance in the areas of administrative support, unit movement training, air movement planning, logistics and maintenance support. Training of the deploying unit should include indoctrination in the standard safety practices of operation in and around aircraft.

- Appoint a mobility or unit movement officer (UMO). Insure the UMO folder is cur-

rent and covers all items contained in appendix B.

- Develop traffic plan for movement to the departure airfield.

- Insure that trained load teams are established and are prepared to carry out their responsibilities.

- Ascertain US/foreign border clearance requirements and procedures, if applicable.

Departure Airfield Control Group

The DACG will:

- Validate the number of personnel and type and quantity of cargo and equipment to be moved.
- Ascertain the time frame during which outloading will be accomplished.
- Confirm location of departure airfield(s) and marshaling area(s) in conjunction with the installation or base commander and the deploying unit.
- Determine departure airfield's logistical/administrative facilities available to DACG and outloading unit.
- Develop the organizational structure and staffing including special personnel skills, administrative requirements, load team personnel, and communications prior to the local joint planning conference.
- Determine user support equipment requirements, i.e., MHE, petroleum, oils and lubricants (POL), contact teams, inspection area, lighting, weighing devices, pusher vehicles, and ADP facilities.
- Establish liaison with deploying unit and other supporting activities.
- Coordinate with the ALCE to establish DACG training requirements.
- Coordinate US/foreign border clearance requirements and procedures.

Arrival Airfield Control Group

The AACG will:

- Coordinate with ALCE prior to arrival of inbound aircraft to determine support requirements.
- Ascertain the time frame in which offloading will be accomplished.
- Determine location of arrival airfield(s) and release and holding areas.
- Determine logistical and administrative facilities available to AACG and deployed unit at the arrival airfield.
- Develop a tentative organizational structure and staffing including special personnel skills, administrative requirements,

load team personnel, and communications before the joint planning conference.

- Establish liaison with supported unit, the ALCE, and other supporting activities.
- Coordinate with the ALCE to establish AACG training requirements.

Airlift Control Element

The ALCE will:

- Review the mission directive and scope of operation and prepare a tentative flow schedule and plan of operation.
- Provide qualified personnel for the airfield survey team.
- Establish initial coordination with the deploying unit and the supporting DACG/AACG to review:

Personnel, cargo, and equipment to be moved.

Deploying unit movement priorities and any impact on established ground time.

Hazardous or outsize equipment and cargo that may require special handling procedures and inspections.

Requirements for assistance.

US/foreign border clearance requirements and procedures.

JOINT PLANNING CONFERENCES

A series of local joint conferences are required during the planning phase. The conferences are needed for close coordination and to insure a clear understanding of responsibilities. As a minimum, a joint planning conference will be held as soon as possible after receipt of the air movement order or directive. A final coordination conference will be held immediately before the initiation of the move. All participating elements should be represented at these conferences by key personnel. These personnel must be able to resolve problems and make decisions for their organization to include interface requirements. These formal conferences do not rule out the need for continuous coordination throughout the planning

cycle. Security and counterintelligence planning must be integrated in all aspects and phases of the overall deployment plan.

Deployment Planners and/or Deploying Unit

The deployment planners and/or deploying unit will:

- Verify whether the AACG will be established by the destination command/installation or the deploying organization(s).

- Provide a consolidated listing of movement priorities by subordinate units (troop list).

- Provide a list of weights and dimensions of the equipment to be moved for each unit. TB 55-46-1 should be used as a planning reference when more precise information is not available. When applicable, appropriate Army transportability guidance technical and field manuals in the 55-series should be consulted for technical, physical, and safety considerations for transport aboard US Air Force aircraft.

- Identify equipment which are transportability problem items due to weight, size, unusual design, configuration, or modification, and hazardous or palletized cargo that may require waivers, special handling and/or loading procedures (AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D).

- Determine requirements for type and source of materials to be used to restrain cargo in vehicles and trailers. Review inspection procedures and documentation requirements for hazardous cargo and organizational equipment which requires special handling (app H and AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D).

- Coordinate procedures for transporting individual weapons, ammunition, and equipment.

- Determine shoring requirements, insure its availability prior to outloading, and establish destination disposition procedures.

- Coordinate US/foreign border clearance requirements and procedures.

Departure Airfield Control Group

The DACG will:

- Determine any special requirements for personnel and equipment including weighing capability, pusher vehicles, security, and equipment washing stations.

- Confirm unit deployment schedule.

- Coordinate with the ALCE on the type and number of aircraft to be used.

- Confirm size and type units.

- Validate shoring and floor protection requirements, and insure 463L dunnage availability.

- Coordinate the use of departure airfield facilities.

- Confirm coordination contacts and determine other liaison requirements.

- Obtain list of unit equipment and materiel to be outloaded (include weight and dimensions of each item). Problem items should be appropriately identified for load planning and coordination with ALCE.

- Finalize DACG organization to include aircraft load teams and training requirements.

- Review with ALCE US/foreign border clearance requirements and procedures.

Arrival Airfield Control Group

The AACG will:

- Determine special AACG requirements for personnel and equipment.

- Confirm arrival schedule.

- Confirm type and number of aircraft used.

- Confirm size and type units.

- Confirm coordination contacts.

- Coordinate the use of arrival airfield facilities and release and holding areas.

- Obtain list of unit materiel to be off-loaded.

- Finalize AACG organization to include aircraft load teams and training requirements.

- Review with ALCE US/foreign border clearance requirements and procedures.

Airlift Control Element.

The ALCE will:

- Confirm type and number of aircraft allocated to move personnel, cargo, and equipment.
- Review US/foreign border clearance requirements, any special handling procedures, and inspections that are necessary for hazardous, outsize, or unusual equipment and cargo.
- Coordinate movement priorities established by deployment planners/deploying unit(s).
- Coordinate the requirements for special training or load planning assistance to be provided to the DACG/AACG and deploying unit(s).
- Coordinate dates, times, and place training will be conducted.
- Determine the requirement for MHE, weighing equipment, 463L pallets, cargo nets, and other equipment as necessary.
- Determine load team supervisors and load inspectors required.
- Confirm coordination contacts.
- Provide a briefing on the tentative plan of operations, including a flow schedule, aircraft parking, communications plan, and safety requirements.
- Identify other operational problems.

PREPARATION FOR MOVEMENT

Preparation for air movement begins with receipt of the mission directive or order, and continues through the planning phase until execution begins.

Deployment Planners and/or Deploying Unit.

Deployment planners and/or deploying unit will:

- Jointly prepare the air movement plan with the MAC representatives. This plan

should include sufficient details to assure an orderly execution of the deployment mission. The plan addresses all aspects of load planning and passenger/cargo documentation (app C).

- Establish priority and sequence for movement of troops and equipment.
- Prepare troops and equipment for air movement as applicable.
- Mark each box, crate, large item of equipment, and vehicle with accurate weight and center of balance (CB). This includes all cargo 10 feet long or longer, any item having a balance point at other than its center, and vehicles having a load-carrying capability (empty or loaded CB, as appropriate).
- Document and manifest troops and materiel in accordance with instructions contained in appendix C and distribute the required number of copies of manifests as determined by the ALCE.

- Develop detailed airlift requirements and provide this information to the appropriate MAC representatives. MAC representatives must have the information before the movement date to permit orderly load and flow planning. This information will include:

Number and type of troops to be moved.

Weight, length, width, and height of items to be airlifted.

Nomenclature of items and, where appropriate, a description of outsize or unusual cargo.

List of hazardous materials to be airlifted.

- Train unit vehicle drivers and equipment operators in conditions simulating aircraft loading and offloading. The training will include forward and reverse operations on an inclined surface using standard hand signals as shown. This training should become part of the unit's standing operating procedure (SOP).

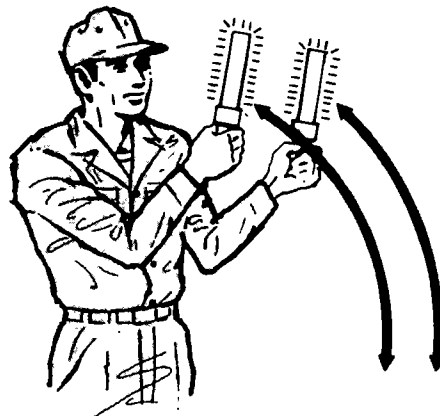
STANDARD HAND SIGNALS FOR LOADING AND OFFLOADING AIRCRAFT

DAY

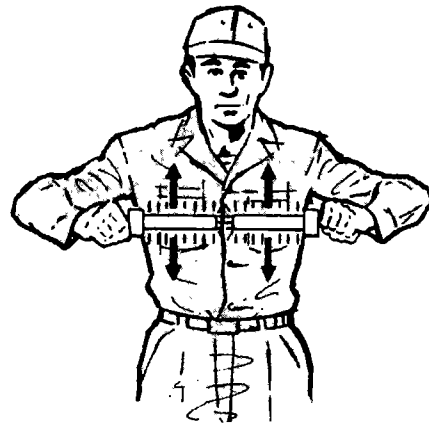
NIGHT



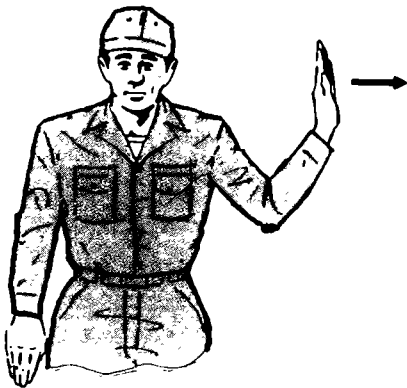
STRAIGHT FORWARD



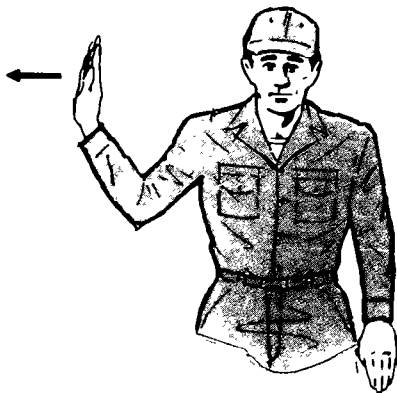
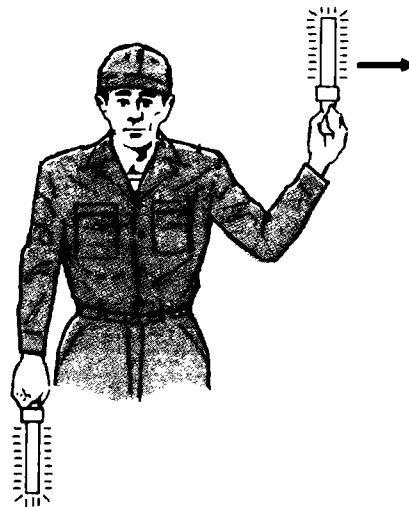
STRAIGHT BACKWARD



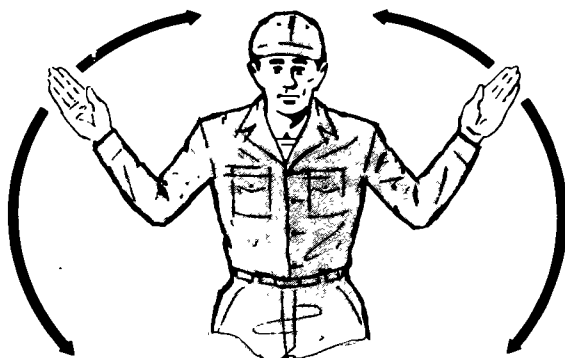
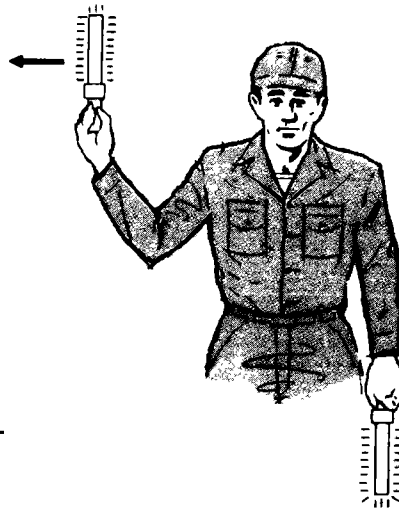
SLOW DOWN



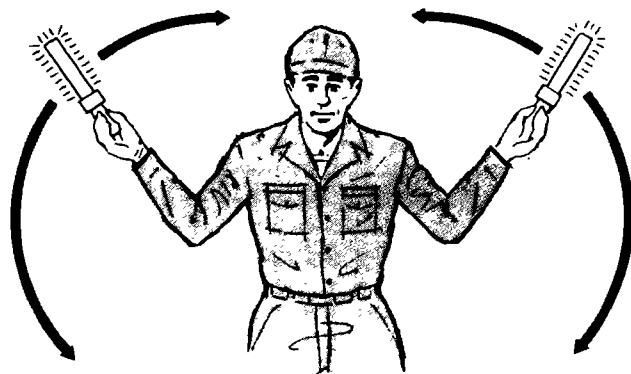
TURN RIGHT

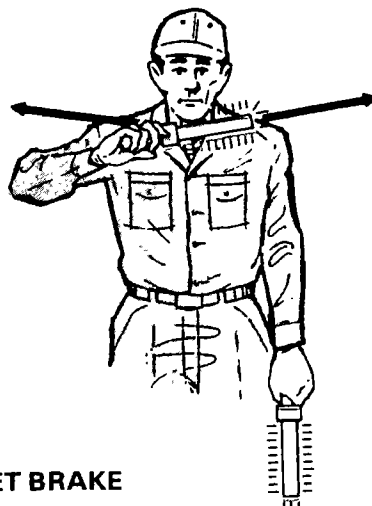


TURN LEFT



STOP

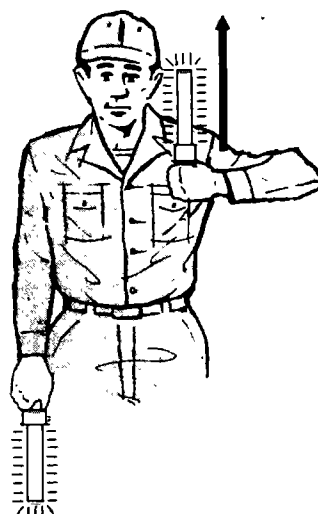
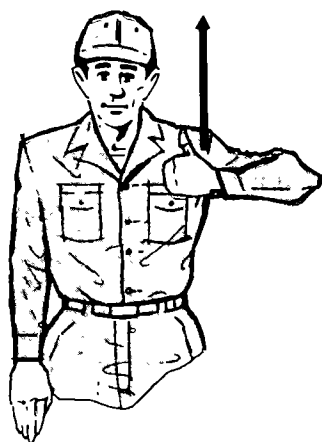




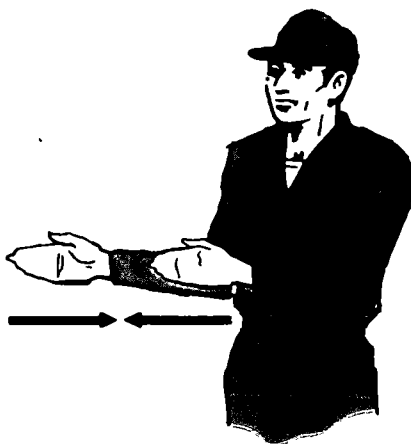
TURN OFF ENGINE AND SET BRAKE



DOWN



UP



CLOSE UP-STOP



CHANGE DIRECTION
(applicable to tracked vehicles only)

- Comply with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D (Preparation of Hazardous Materials for Military Air Shipment) as it pertains to airlift of hazardous materials and coordinate operational deviations or waivers when required:

- Ammunition ready racks located on tracked vehicles will normally not be

used during movement. All ammunition will be properly restrained in approved ammunition containers, trailers, and trucks, or will be palletized. Waivers to these conditions are permitted and will be processed in accordance with the provisions of AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D.

- Troops may transport their weapons and ammunition on DOD aircraft, when directed by competent authority. For tactical movement or airborne insertion, planeload or troop commanders will determine that all weapons are unloaded before boarding and will authorize readying weapons for debarkation. For administrative movement of troops, ammunition will be packed and certified in accordance with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D. In both cases the aircraft commander will be advised accordingly.
- Personnel assigned to guard security equipment, requiring loaded weapons, will be identified and their presence made known to the aircraft commander.
- Fuel tankers/refuelers will be drained and purged in accordance with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D.
- Individual weapons and/or ammunition will be prepared as established during the joint planning conference. Normally, weapons and ammunition will be boxed or crated for airlift. If operational requirements dictate, weapons and ammunition may be transported by one of the following methods:

Secured to the unit vehicle or equipment.

Secured to individual duffel bags.

Retained by the individual. (For extended flights, this method is the least desirable due to the limited space around troop seats for stowing weapons.)

- Assign duties and responsibilities to unit liaison personnel as determined during the joint planning conference (app D). Prepare equipment and supplies for air movement and/or airdrop to meet joint inspection requirements (app E).

- Insure that supplies and equipment loaded on unit vehicles are in accordance with the unit's vehicle load plans. Stow and secure unit equipment and supplies on vehicles and

trailers to the maximum extent. Make sure the load does not exceed the rated cross-country (offroad) capability of the vehicle (app F).

- Prepare vehicles and equipment for air movement by making them completely serviceable. Insure that all lifting or tiedown shackles and devices are in position and serviceable. Additional preparation instructions are contained in appendix F.

- Determine the gross weight of each vehicle, outsize item of equipment, and each loaded pallet and container. When vehicles exceed 20,000 pounds, individual axle weight will be marked above each axle. If adequate scales are not available to the unit commander, the method of determining weights will be resolved in the joint planning conference. Weights will be marked with a weather-resistant material and in a prominent location on both sides of the item. Make sure all previous markings are removed or covered.

- Determine and mark (in an easy to notice place on both sides of the item) the center of balance (CB) of each vehicle, large item of equipment, box, crate, and container of supplies. In addition, when coupled trucks and trailers are to be transported, determine and mark the combined CB. Marking will be accomplished by placing a clearly distinguishable 1-inch by 3-inch vertical stripe (tape) on both sides of the item at the center of balance. Thus, the vertical stripe indicates the CB location. Mark this point by printing the letters CB directly above the vertical stripe. Methods of determining center of balance are contained in appendix G.

- In coordination with the supporting MAC representatives, finalize specific aircraft load plans and prepare passenger/cargo manifests (DD Forms 2130, 2131, and 2132, as applicable). Additional guidance is contained in appendix C. Documentation requirements for items requiring special handling are shown in appendix H.

- Provide key personnel participating in the operation with distinctive identification, such as armbands, hatbands, or badges to assist in coordination. These markings will be

coordinated with supporting personnel and, as a minimum, will be provided to the following unit representatives:

Unit liaison officers/NCO's

Planeload/troop commander

- Brief personnel on distinctive identification afforded key supporting personnel, i.e., ALCE, DACG/AACG.

- Obtain required shoring, floor protection materials, and 463L dunnage through G-

4/Logistics. Army Technical Manuals 55-450-10/1 (AFM 76-3), 55-450-10/2 (AFM 76-4), Field Manual 55-13 (AFM 76-12), and USAF Technical Order -9, provide guidance on shoring requirements for certain specific loads.

- Finalize movement priorities for aircraft loads of unit personnel and equipment.

- Appoint a planeload or troop commander for each mission aircraft carrying passengers.

DUTIES OF PLANELOAD/TROOP COMMANDER

① Be present at the passenger briefing for the flight.

② Assume control of all passengers listed for movement on the flight and make sure that all are informed of formations, expected departure, and reporting time.

③ Be readily available to the unit movement officer (UMO) at all times. Personnel will not be dismissed without the approval of the UMO.

④ Check roll prior to reporting for loading to make sure everyone is present for flight. Report no-show passengers to the UMO so that standby passengers may be selected to complete the load.

NOTE: Coordinate time for roll check with UMO.

⑤ Make sure that each person has placed his/her baggage on the proper vehicle for transport to the aircraft.

⑥ Check the loading of passengers to make sure that each individual appearing on the manifest is loaded aboard the aircraft.

⑦ Maintain planeload/troop commander's itinerary.

Brief all passengers on maintaining security of their personal belongings and make sure that any passenger removed from a flight has his/her baggage removed with him/her. Conduct antihijack inspection of all assigned troops and certify in item 20 of passenger/cargo manifest. Keep one copy of manifest for deploying unit's records and send one copy to the AACG.

⑧

Collect all clips and ammunition, keep them in custody during flight, and reissue them as required en route to or at destination.

⑨

⑩ Maintain in-flight discipline of all passengers and make sure they comply with smoking restrictions.

⑪

⑫ If in-flight rations are issued, control the issue to troops.

⑬

⑭ Help maintain a clean and safe condition in the aircraft.

⑮

⑯ At en route stations, determine ground time from the loadmaster and take positive action to insure that all

⑰

SEE FORMAT

PLANELOAD/TROOP COMMANDER'S ITINERARY

Passengers briefed by _____ at _____
on _____ (date and time). Passengers loaded on _____ (acft model and No.)
_____ on _____ (date and time). All passengers
listed on manifest # _____ listing _____ (number) passengers,
were loaded.

Departed _____ at _____ (date & time), Arrived _____ at _____ (date & time).

Departed _____ at _____ (date & time), Arrived _____ at _____ (date & time).

Departed _____ at _____ (date & time), Arrived _____ at _____ (date & time).

Departed _____ at _____ (date & time), Arrived _____ at _____ (date & time).

Passengers loaded and/or offloaded enroute:

Enroute Base	Date & Time	Name, Rank, ASN, Org	Reason
-----------------	----------------	----------------------	--------

_____	_____	_____	_____
_____	_____	_____	_____

Remarks (include reasons for delay, etc.): _____

_____ (Continue remarks on reverse side.)

(Signature of Planeload/Troop Cdr.)

(Rank and SSN)

NOTE: All times "ZULU" time.

RECOMMENDED FORMAT
PLANELOAD/TROOP COMMANDER'S ITINERARY

passengers are present to meet flight departure times. Know which passengers will be offloaded should it become necessary to take such action at an en route station. If passengers are offloaded, or other personnel are added to the manifest at an intermediate stop, notify the departure airfield by operational immediate message, as illustrated. Any change to the manifest will be explained in the "reason" portion of the form, with the reason for the change. The final destination base will be included as an information addressee unless the destination is classified. Before departure from the en route station, conduct another antihijack inspection.

15

Where weather causes landing at offroute bases, help the aircraft commander to get billeting and food for the aircraft passengers, if such is required.

16

Upon arrival at destination, maintain an orderly dispatch of the passengers and determine whether or not they are needed to assist with the offloading of baggage and/or cargo.

17

During en route servicing stops, designate a guard for personal effects or other equipment that must remain in the cabin of the aircraft. If necessary, use two individuals to perform guard duty on an alternate basis. If en route military bases

SAMPLE FORM DD-173

14

Brief passengers on load restrictions and conduct at en route stops. Some stations may at times restrict passengers to the base area because of local conditions. The ALCE representative meeting the aircraft will inform you of the pertinent local conditions.

do not arrange to provide hot meals for the security guards, then ask the base to provide acceptable security. Arrange for security coverage through base facilities when unusually long delays are encountered.

Departure Airfield Control Group

The DACG will:

- Assemble DACG personnel and assign duties. Sufficient loading teams will be provided to accommodate all aircraft loading. These teams will function under the supervision of an Air Force team chief provided by ALCE.

- Insure that the deploying unit obtains sufficient shoring materials as required.

- Establish departure airfield operational areas in coordination with ALCE.

- Accomplish training necessary to insure that all DACG personnel are qualified to perform mission.

- Colocate with supporting ALCE and maintain close liaison with ALCE and the deploying unit.

- Establish requirements for communications (chap 5).

- Provide key personnel participating in the operation with distinctive markings to assist in coordination. These markings will be coordinated with other participants.

- Prepare briefing charts showing the airfield area and brief all key personnel on the sequence of events planned for the execution phase.

- Insure support equipment, MHE, POL, food service, inspection area, lighting, first aid, weighing devices, and enough pusher vehicles are available to accomplish the airlift.

NOTE: Pusher vehicles are normally assigned one per loading team to afford the team mobility and to be used as a loading aid.

JOINT MESSAGEFORM						SECURITY CLASSIFICATION UNCLASSIFIED			
PAGE	DRAFTER OR RELEASE TIME	PRECEDENCE	LMF	CLASS	CIC	FOR MESSAGE CENTER/COMMUNICATIONS CENTER ONLY			
OF		ACT OPS IMMED				DATE - TIME	MONTH	YR	
BOOK		MESSAGE HANDLING INSTRUCTIONS							
FROM: (AIR BASE WHERE PASSENGERS ARE LOADED/OFFLOADED) TO: (DEPARTURE AIR BASE) INFO: (DESTINATION AIR BASE (Only if unclassified)) UNCLAS (Date/Time Group) For ALCE Cdr. Subject: Load/Offload of Passengers. Enroute base _____ Date and time _____ Loaded/Offloaded (List personnel by Name, Rank, SSN, Org) _____ Aircraft type and tail number _____ Reason _____									
DISTR:									
DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE & DATE						SPECIAL INSTRUCTIONS			
WILHELM F. KLINK, LTC, Inf Planeload/Troop Cdr XXXX									
TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE									
SIGNATURE									
SECURITY CLASSIFICATION						DATE TIME GROUP			
UNCLASSIFIED									

DD FORM 173
1 DEC 70

REPLACES DD FORM 173, 1 JUL 68, WHICH WILL BE USED.

Arrival Airfield Control Group

The AACG will:

- Assemble AACG personnel and assign duties. Sufficient loading teams will be provided to accommodate all aircraft offloading. Teams will function under the supervision of an Air Force teamchief, provided by ALCE.
- Colocate with the supporting ALCE. Maintain close liaison with ALCE and the supported unit and insure rapid clearance of the ramp area.
- Establish arrival airfield operational areas in coordination with the ALCE.
- Accomplish training necessary to insure that all AACG personnel are qualified to perform mission.
- Establish procedures for the recovery of shoring materials, tiedown equipment, and 463L pallets.
- Establish requirements for communications (chap 5).
- Provide key personnel participating in the operation with distinctive markings to assist in coordination. These markings will be coordinated with other participants.
- Provide briefing charts showing the airfield area and brief all key personnel on the sequence of events planned for the execution phase.
- Insure support equipment, MHE, POL, food service, inspection area, lighting, first aid, contact maintenance, and enough vehicles are available to accomplish mission.

Airlift Control Element

The ALCE will:

- Insure operational establishment at departure and arrival airfields and provide adequate space for liaison representatives of the DACG/AACG.
- Provide MHE, equipment operators, cargo inspectors, and load team personnel to accomplish the mission.
- In coordination with the deploying unit, validate detailed load plans.
- Insure communications network is established (chap 5).
- Prepare and maintain statistical record of arrivals, departures, loading time, tonnage, and other pertinent data.
- Insure that an ALCE member is prepared to conduct a final briefing for the deploying unit and all supporting elements. This person must also establish or confirm responsibilities, procedures, schedules, vehicle and personnel traffic routes, and safety requirements.
- Insure that deploying units comply with US/foreign border clearance requirements and procedures.

FINAL COORDINATION

The task force commander or his/her representative will conduct a final joint coordination meeting with representatives of the deploying unit, DACG/AACG, and ALCE. At this meeting, the deploying unit, DACG/AACG, and ALCE will present the status of their planning to identify any problems.

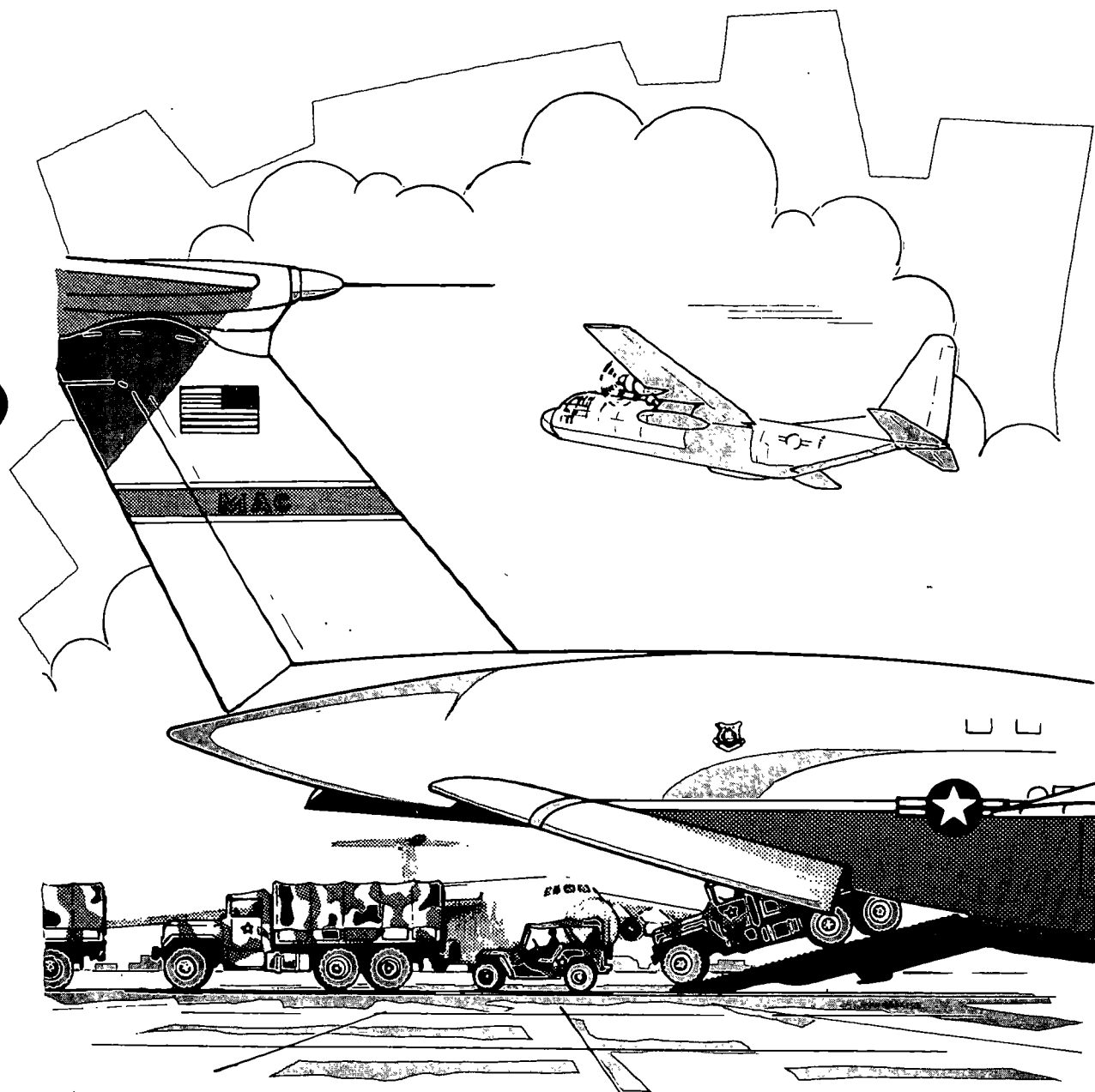
Chapter 4

EXECUTION

The previous chapter outlined the necessary actions during the planning and preparation phase. This chapter discusses the two functional areas of the execution phase of an air movement operation. These functional areas are:

DEPARTURE AIRFIELD OPERATIONS

ARRIVAL AIRFIELD OPERATIONS

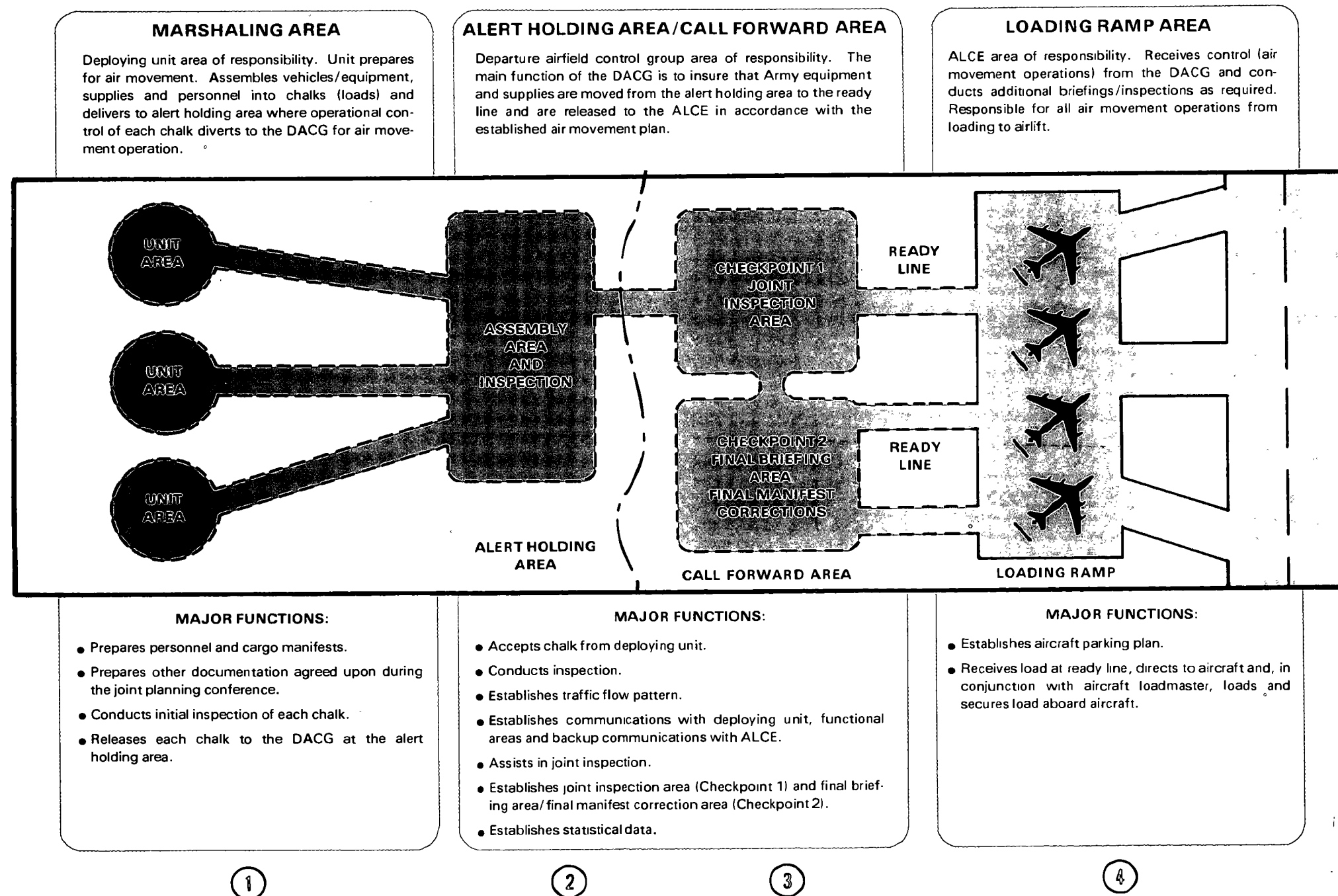


DEPARTURE AIRFIELD OPERATIONS

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DEPARTURE AIRFIELD OPERATIONS

Departure airfield operations are outlined in four separate areas of activity and list the responsibilities of the deploying unit, DACG, and ALCE within each area. The ALCE coordinates the overall airlift operations at the departure airfield. See appendix I for DACG checklist.



① MARSHALING AREA ACTIVITIES

The marshaling area is provided by the installation or base commander of the geographic area of responsibility from which the deploying unit stages its departure. Marshaling area activities are the responsibility of the deploying unit commander. The marshaling activities may take place within the deploying unit's permanent area or in another area to ease movement and control. In either case, the marshaling area activities should take place as close as possible to the departure airfield. But, its location should not cause unnecessary congestion to the airfield operations or undue hardship to the deploying unit. See appendix J for additional details and checklist.

Installation/Base Commander

The installation or base commander who provides the marshaling area or parent organization will assist and provide relief for the deploying forces. Relief is provided from all support functions to permit concentration on preparations for the deployment.

Deploying Unit

The home station installation or parent organization is responsible for the movement of its subordinate units. The deploying unit will:

- Establish liaison with the DACG and other activities as agreed during the joint planning conference.
- Perform final preparation of vehicles and equipment in accordance with appendixes E, F, and G.
- Insure that adequate shoring material is on hand and readily available.
- Prepare personnel and cargo manifests in accordance with appendix C.
- Assemble personnel, supplies, and equipment into aircraft loads in accordance with established load plan.
- Insure planeload or troop commanders are appointed and properly briefed on their responsibilities.

- Pass control of unit aircraft loads to the DACG at the alert holding area.

Departure Airfield Control Group

The DACG will:

- Maintain liaison with the deploying unit.
- Arrange with ALCE for Air Force technical assistance required by the deploying unit.
- Establish communications (chap 5).
- Maintain liaison with the aerial port section of the ALCE.
- Call aircraft loads forward from the marshaling area and assume control in the alert holding area.

Airlift Control Element

The ALCE will:

- Provide technical assistance to the deploying unit in preparation of vehicles and equipment for loading.
- Provide aircraft departure times to the DACG.
- Coordinate movement of the unit's aircraft loads through the various control points of the outloading process.

② ALERT HOLDING AREA ACTIVITIES

The alert holding area is the equipment/vehicle and passenger control area. It is located in the vicinity of the departure airfield. It is used to assemble, inspect, hold, and service aircraft loads. Control of the load is transferred from the individual unit to the DACG at this point.

Deploying Unit

The deploying unit will:

- Insure that the aircraft load arrives at the alert holding area at the time specified by the DACG.

- Provide the DACG with passenger/cargo manifests and required documentation.
- Provide personnel to correct load discrepancies.

Departure Airfield Control Group

The DACG will:

- Receive, inventory, and control aircraft loads as they arrive at the alert holding area.
- Inspect aircraft loads to insure that they are complete, correctly prepared, and that the required shoring, floor protection materials, and 463L dunnage are available. Appropriate joint inspection record will be used (app E).
- Establish a discrepancy correction area.
- Inspect documentation for accuracy and completeness.
- Insure passengers are accounted for and available.
- Provide emergency maintenance, POL, and related services, as necessary, to accomplish the outloading mission.
- Direct or guide the aircraft load to the joint inspection area (call forward area). (See checkpoint 1.)

Airlift Control Element

The ALCE will assist the DACG where required.

③ CALL FORWARD AREA ACTIVITIES

The call forward area is that portion of the departure airfield where the joint inspection is conducted. A final briefing is provided to the deploying troops and manifests are reviewed for accuracy.

Deploying Unit

The deploying unit will correct all discrepancies found by the DACG/ALCE inspection.

Departure Airfield Control Group

The DACG will:

- Establish communications (chap 5).
- Assist in the conduct of the joint inspection of aircraft loads and manifests.
- Insure that passenger/cargo manifests are correct.
- After loads have passed inspection, move equipment forward to ready line and segregate by load.
- In the event of aircraft aborts or discrepancies in the planned allowable cabin load (ACL), reassemble aircraft loads, with the assistance of the ALCE, and prepare required manifest changes.
- Insure that discrepancies found during the joint inspection are corrected.
- Maintain statistical data to account for the current status of all unit personnel and equipment scheduled for air movement.
- Insure the deploying unit adheres to the established timetable.
- Provide loading team personnel and support equipment to include one pusher vehicle per load team.
- Escort aircraft loads to the ready line, and insure that all personnel are briefed. Personnel will be briefed on flight line safety, including driving procedures, smoking rules, and other applicable local safety requirements.
- Retain a final corrected copy of each passenger/cargo manifest and inspection record.
- Insure that deficiencies noted during the joint inspection are relayed to the alert holding area and the unit. This action will prevent recurrence of the same deficiencies. Provide emergency services as required and agreed upon at planning

- conference to insure uninterrupted operations.
- Provide fueling and defueling capability and emergency maintenance for vehicles to be transported.
- Provide passenger holding area, as required.

Airlift Control Element

The ALCE will:

- Coordinate, with the DACG, all changes that may be required to the aircraft load configuration.
- Together with the DACG, conduct the joint inspection (apps E and F).
- Brief drivers and passengers on flight line safety, driving procedures, smoking rules, and special precautions.
- Provide team chief for each loading team.
- Provide passenger escort to the aircraft.
- Notify the DACG when loads are to be dispatched to the loading ramp area ready line.
- Accept loads at the ready line and load aboard the aircraft.

④ LOADING RAMP AREA ACTIVITIES

The loading ramp area, including ready line area, is controlled by the ALCE.

Deploying Unit

The planeloader or troop commander will:

- Insure that shoring, floor protection materials, and 463L dunnage, if required, are on hand and ready for use.
- Follow directions of load team chief or passenger escort.
- Monitor control of the aircraft load or passengers.

- Retain one copy of the final passenger/cargo manifest.
- As requested by the load team chief, provide help in loading and securing the aircraft load.

NOTE: Vehicle drivers and equipment operators will follow the instructions of the load team chief or primary loadmaster while loading equipment on the aircraft.

Departure Airfield Control Group

The DACG will:

- At the ready line, transfer control of aircraft load to ALCE and monitor the loading.
- Maintain coordination with the deploying unit representative and ALCE.
- Obtain individual aircraft load completion time from ALCE.

Airlift Control Element

The ALCE will:

- Accept planeloads from the DACG at the ready line.
- Insure that all drivers have been briefed on flight line safety. The briefing will include driving procedures, smoking rules, and special precautions.
- Insure that each aircraft load is positioned at the proper aircraft at the specified time.
- Maintain liaison with the aircraft and the DACG.
- In coordination with the aircraft primary loadmaster, insure loads are placed aboard the aircraft.
- Provide, if required, and operate MHE and special loading equipment in accordance with AR 59-106/AFR 76-7/OPNAV INSTR 4660.1/MCO 4660.1 and

agreements established during the joint planning conference.

- Maintain communications in accordance with chapter 5.
- Provide the aircraft primary loadmaster with the required copies of the passenger/cargo manifests and retain a copy for the ALCE files.
- Accomplish all required aircrew briefings.

Load Team Chief

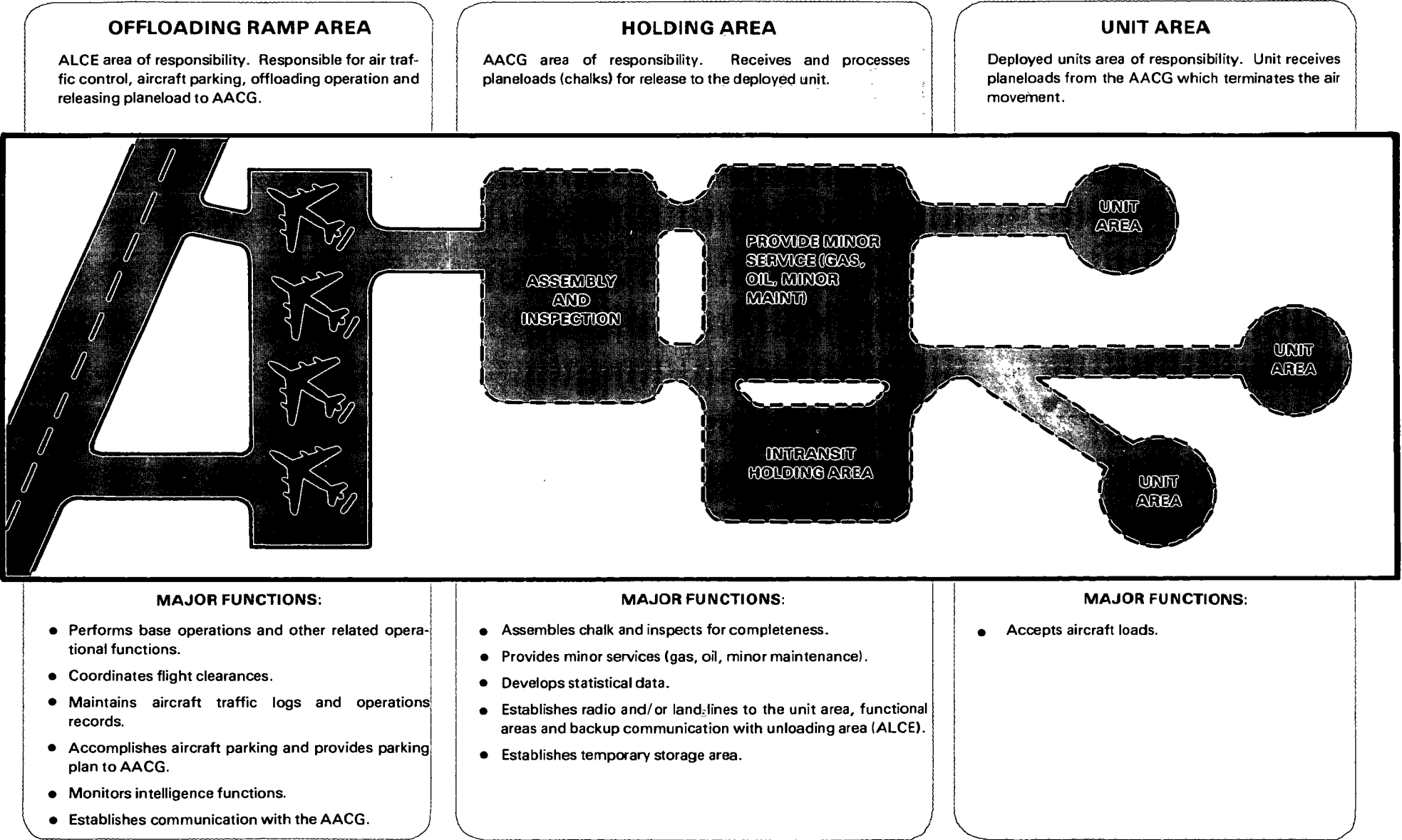
The load team chief will:

- Receive the load at the ready line.
- Direct and supervise the loading teams and vehicle drivers.
- In coordination with the aircraft primary loadmaster, direct all loading operations and insure all equipment and supplies are properly restrained in the aircraft.
- Coordinate with the ALCE ready line coordinator for any special assistance or equipment needed.
- Collect required copies of the passenger/cargo manifest and make sure they are given to the aircraft primary loadmaster.
- If loading is to be accomplished with the aircraft engines running, conduct preflight briefing to all accompanying troops. Insure passengers are under control at all times. Required passenger briefings will normally be held in the alert holding area. The briefing will be conducted by an individual qualified in and familiar with the emergency systems of and procedures for the aircraft to be used.
- Pass load completion time to the AOC section of ALCE.

**ARRIVAL
AIRFIELD
OPERATIONS**
FOLD THIS PAGE OUT

ARRIVAL AIRFIELD OPERATIONS

Illustrated are distinct areas of arrival airfield activities and responsibilities of the deploying unit, the AACG, and the ALCE. Some functional areas will overlap. The two main areas are the offloading ramp area and the holding area; the third area is the unit area where air movement ends. The AACG/ALCE will insure that arriving aircraft are offloaded in a timely manner and that the equipment, supplies, and personnel proceed immediately to the holding area. See appendix K for AACG checklist.



1 OFFLOADING RAMP AREA ACTIVITIES

The offloading ramp area activities are controlled by the ALCE. Each load, when offloaded from the aircraft, will be released to the AACG for return to unit control at the established release point.

Deploying Unit

The planeloader or troop commander will:

- Provide assistance to the primary loadmaster.
- Receive instructions from the offload team chief.
- Insure that all aircraft tiedown equipment, pallets, and nets are returned to the ALCE.
- Retain or dispose of all shoring, floor protection materials, and 463L dunnage as determined in joint planning conference.
- Provide one copy of passenger/cargo manifest to the AACG.

NOTE: Vehicle drivers and equipment operators will follow the instructions of the load team chief or primary loadmaster while offloading from the aircraft.

Arrival Airfield Control Group

The AACG will:

- Maintain coordination with the deploying unit and ALCE representative.
- Make sure that offload teams with pusher vehicles are available and briefed to perform their duties.
- Coordinate with the ALCE for recovery and storage of shoring materials.
- Accept each planeload from the ALCE at the established release point.

Airlift Control Element

The ALCE will:

- Receive two copies of the passenger/cargo manifest from the aircraft primary loadmaster.

- Provide load team chief.
- Coordinate for the removal of all equipment, supplies, shoring, floor protection materials, 463L dunnage, and personnel from the aircraft and ramp offloading area.
- Provide, as required, and operate MHE and special offloading equipment in accordance with AR 59-106/AFR 76-7/OP-NAV INSTR 4660.1/MCO 4660.1 and agreements established during the joint planning conference.
- Provide communications in accordance with chapter 5.
- Inform the AACG of any change in operations.
- Maintain statistical data on the operation.
- Release the load to the AACG at the established release point.

② HOLDING AREA ACTIVITIES

Deploying Unit

The deploying unit will:

- Provide unit liaison personnel to the AACG.
- Assist the AACG as required.

Arrival Airfield Control Group

The AACG will:

- Maintain coordination with the ALCE and the deploying unit. If the AACG is part of the lead element of the arriving unit, establish coordination with the receiving command or installation.
- Provide facilities as determined during the joint planning conference.
- Maintain records on personnel and equipment received and cleared.
- Release aircraft load to the deploying unit commander or his/her representative at a predesignated location.
- Insure that all aircraft tiedown equipment, pallets, and nets are returned to the ALCE.
- Provide fuel, oil, and minor maintenance for transported vehicles.
- Provide emergency services as required to accomplish the mission.

③ UNIT AREA ACTIVITY

The deploying unit terminates the air movement at this point.



Chapter 5

SUPPORT FUNCTIONS

Air movement of units involves detailed planning in all aspects of control, coordination, preparation, and execution which have a direct impact on the operation. The many responsibilities and planning considerations for the various aspects have been discussed in the preceding chapters. Several of the support functions related to a successful deployment are reemphasized below:

SECURITY

COMMUNICATIONS

SAFETY

HAZARDOUS MATERIALS

AUTOMATIC DATA PROCESSING



SECURITY

Responsibilities

During airlift operations conducted at airfields and airbases, the base commander will be responsible for aircraft security.

Because of the security and counterintelligence requirements involved in air movement operations, the commanders at all echelons of the participating forces must establish and enforce strict internal security measures.

The unified command/joint task force commander establishes those security measures which must be taken by the units of the component services during each phase of the operation. The commander also directs establishment of liaison among all commands involved to insure uniformity of security plans, including emergency plans for destruction of classified materials.

The commander charged with supporting the marshaling of units provides necessary counterintelligence support in and around marshaling areas.

All commanders insure that proper security measures, to include communications security, are coordinated and enforced by transient units and permanent parties at departure sites and marshaling areas (camps).

At the time specified by the unified command or joint force commander all participating or supporting units of the operation are restricted to designated areas until the operation is either executed or canceled.

Briefings are conducted immediately before the operation and in closely guarded locations.

Marked maps, operation orders, overlays, or similar items are carried into the objective area only as specifically authorized.

Minimum security requirements and procedures:

- *Aircraft will be parked in a secure area for the loading and offloading of the unit equipment and/or personnel.*

- *Personnel access to the aircraft will be controlled by the ALCE.*
- *Vehicular movement around the aircraft will be controlled by the ALCE.*

The installation or base commander is responsible for the security of the marshaling area. If the marshaling area (camp) is located on the departure airfield, the ground force commander is responsible to the airfield commander for the security of the camp area. This responsibility also applies at the arrival airfield assembly or holding area.

Passive Defense

Concentration of aircraft, equipment, and personnel at staging bases, and within an airhead, provide lucrative targets for opposing forces. It is particularly important to observe all passive defense measures that lessen the effect of opposing force action. Consideration must be given to establishing routes of flight and rendezvous points. These routes must allow maximum dispersal of aircraft during the air movement phase, yet provide rendezvous points near drop, landing, and extraction zones to insure delivery according to schedule.

Dispersal of aircraft at staging airbases and troops in marshaling areas is essential. Concentration of forces during marshaling must be avoided to retain secrecy of impending operations and to deny lucrative targets to the opposing force. To maintain adequate dispersion, deploying forces should:

- *When movement is necessary, move rapidly under cover of darkness, at the latest practicable time, to separate areas in the vicinity of air facilities.*
- *Make all possible preparation for loading before arrival at the loading site.*
- *Control movement to loading sites so that most of the personnel arrive after the equipment and supplies are loaded on the aircraft.*

Local Area Security

When deploying units are located within the limits of Air Force installations (departure airfields), their unit commanders are responsible to the commander of the departure airfield for the security of their respective areas. The commander of the departure airfield is responsible for the overall security of the airfield. The unified or joint force command exercising operational control or command may task the deploying force commander to provide augmenting security forces.

In areas of mutual interest, the commanders concerned coordinate the security requirements and define the responsibilities of each force. When aircrews and ALCE personnel are the only Air Force resources available at the dispersed departure airfields or staging bases, the deploying unit commander normally assumes responsibility for area security. The ALCE commander is responsible only for point security, such as aircraft.

Communications-Electronics

Each commander is responsible for maintaining the appearance of normalcy in communications traffic, both as to volume and type, particularly radio communications. Greater use is made of telephone and messengers than of radio. However, the appearance of normalcy is maintained in telephonic traffic using civil circuits, as in radio traffic. Military circuits are checked thoroughly for security before traffic is increased and at regular intervals thereafter. Additional messenger traffic uses unmarked vehicles, normal traffic being maintained with marked messenger vehicles. The unified command or joint force commander will implement a cover and deception plan only upon approval of the Joint Chiefs of Staff.

Communications-electronics silence is maintained to the extent possible during the air movement phase. Conditions under which electronic emitters may be activated are detailed and specific.

Once the assault phase is begun, communications security is practiced as in normal

operations and is governed by unit SOP, SOI (signal operating instruction), and SSI (standing signal instruction). If a withdrawal by air is planned, or forced by opposing force action, special communications security provisions are placed into effect at the time the withdrawal decision is announced.

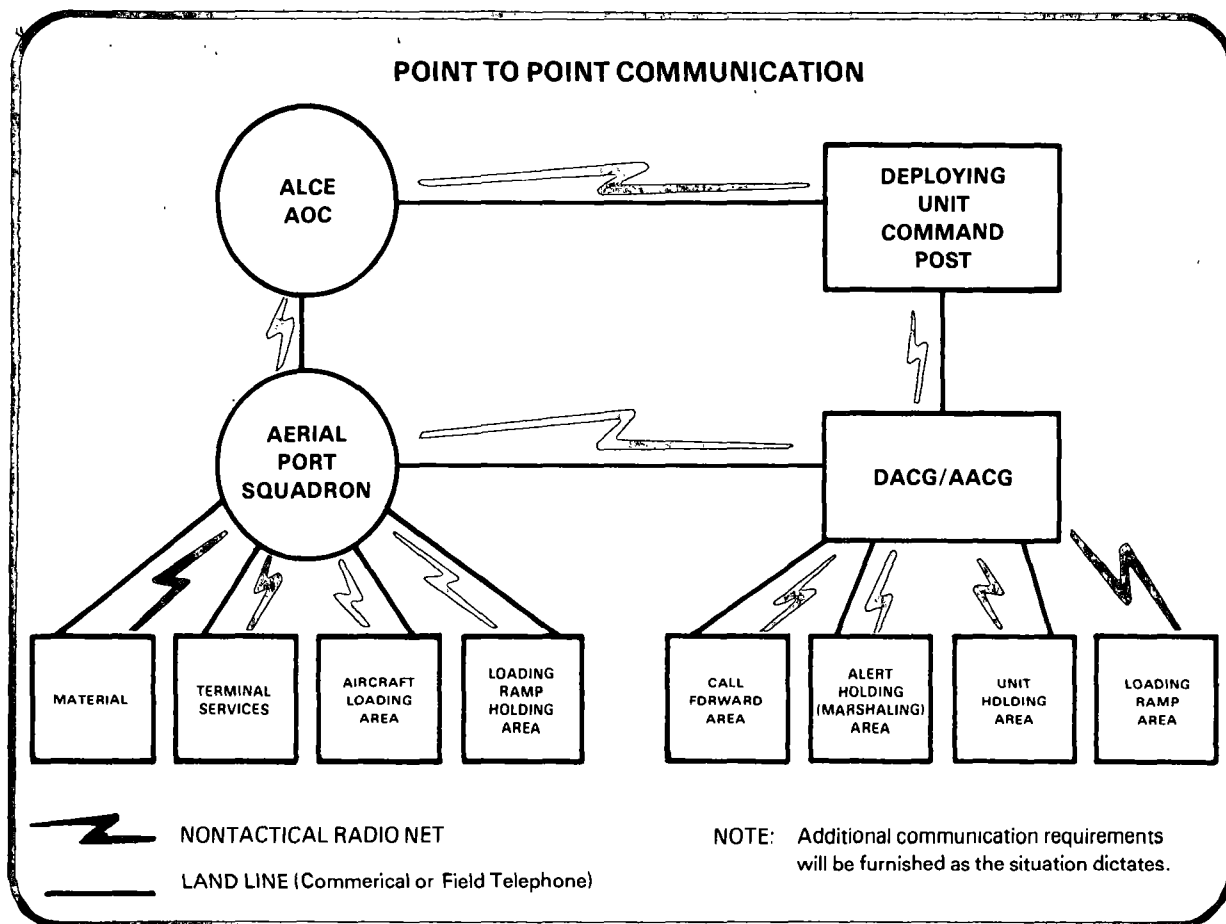
COMMUNICATIONS

Adequate communications to coordinate and control all joint activities of an airlift operation are essential to the success of the operation. Establishment of the communications system is the responsibility of the ALCE, and the DACG/AACG. The focal point of the airlift operations communications system is the AOC of the ALCE. To establish these communications, the ALCE will insure that an adequate system (wire or radio) exists between all functional areas of ALCE. The DACG is responsible for providing communications to the alert holding area, call forward area, the deploying unit command post, and to the AOC. In addition, the DACG will provide a wire or radio net between the AOC and the deploying unit command post. The ALCE will establish communications with the joint inspection point in the call forward area. Backup communications will be established where appropriate.

The illustration on the following page shows point-to-point communications from the airlift operations center to each area of activity in a joint airlift operation.

SAFETY

Vehicle, aircraft, and personnel safety throughout a joint air movement operation are dependent upon compliance with all DOD standard safety practices. They are also dependent upon compliance with special aircraft considerations relating to the aircraft assigned to the mission.



Safety of vehicles and personnel involved in an aircraft movement will be governed by requirements of Air Force Regulation (AFR) 127-101 and the applicable aircraft technical order. These requirements apply to vehicles and personnel approaching within 50 feet of an aircraft and during all loading and offloading operations. Participating personnel will be briefed on the necessary requirements by an ALCE representative.

All personnel involved will be briefed on the safety considerations that relate to the operation. The checklist may be used as a guide for this briefing.

SAFETY CHECKLIST FOR VEHICLE OPERATIONS

- ☐ All vehicles and equipment will be inspected in the marshaling area for mechanical defects and proper fuel levels.
- ☐ Vehicle fuel tanks must be not more than three-fourths full.

☐ Each vehicle must be checked carefully to insure that all loose or removed items are properly secured within or on the vehicle.

☐ No vehicle will be driven under any part of the aircraft.

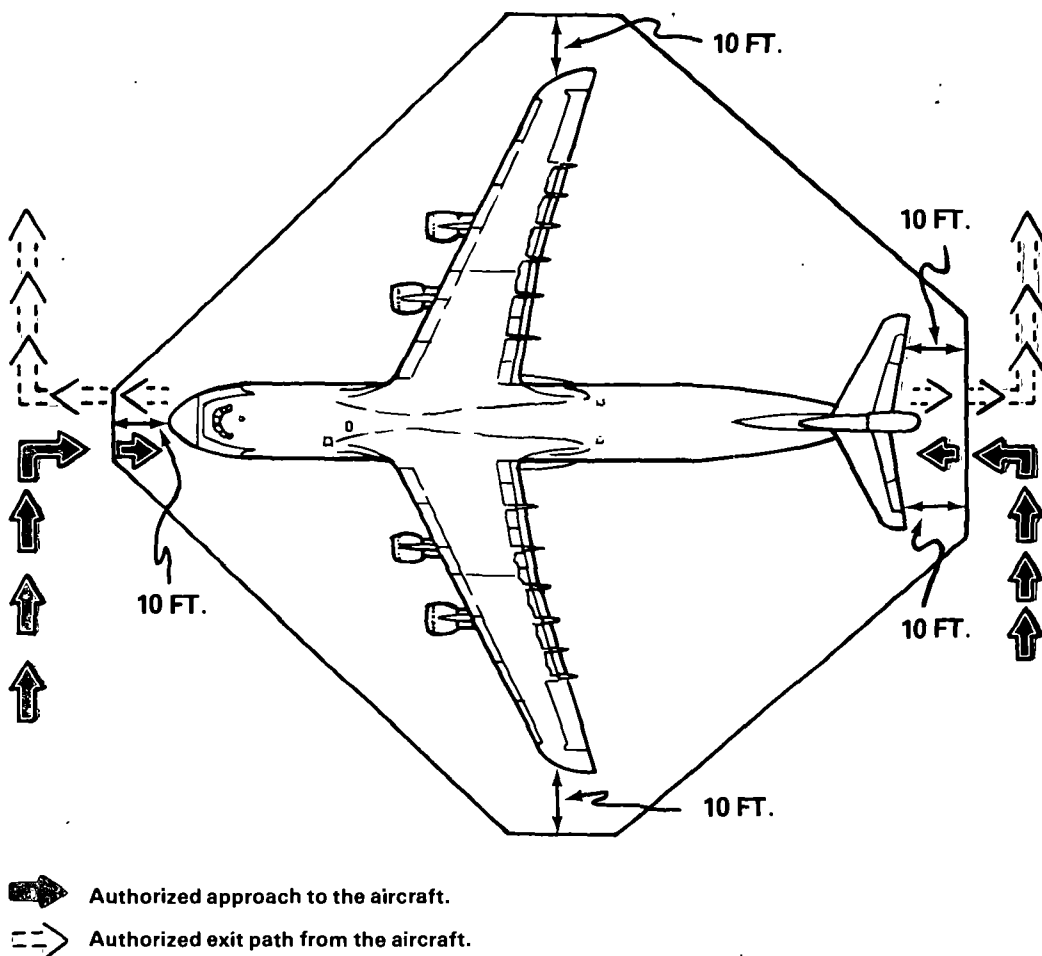
☐ Maximum speeds for all vehicles within 50 feet of any aircraft will be 5 miles per hour (mph). On loading ramps or inside the aircraft, vehicle speed will not exceed 3 mph (walking speed).

☐ All unattended vehicles will have the engine shut down, gears positioned for holding the vehicle, and the handbrake set. Keys must be left in the ignition of unattended vehicles.

☐ No vehicles other than those loading or off-loading will be driven directly toward or parked closer than 25 feet from an aircraft.

☐ Vehicles will not be backed in the vicinity of the aircraft without a walking guide observing clearance for the driver.

SAFETY PERIMETER AND VEHICLE ACCESS ROUTES TO TRANSPORT AIRCRAFT



□ Only one person will provide signal guidance for vehicle operations while vehicles are loading or offloading from the aircraft. Vehicle drivers/equipment operators will follow the instructions of the individual designated by the loadmaster/load team chief while loading and offloading the aircraft.

□ All vehicle/equipment guides will stay clear of operating vehicles/equipment.

□ All safety chains and pintle hook pins will be installed on vehicles towing trailers.

□ Vehicles on the cargo floor will not be left unattended until a minimum forward and aft restraint is provided.

General safety considerations (AFR 127-101).

- There will be no smoking on the aircraft parking ramp except in designated smoking zones.
- Personnel will not sit or lie on the ramp, under vehicles, aircraft, or equipment.
- Rings or watches should not be worn by members of loading/offloading teams.
- No equipment such as tiedown chains, chocks, wrenches, etc., will be thrown about the aircraft.
- No equipment will be refueled or otherwise serviced within 50 feet of an aircraft.

- *Fire extinguishers will be placed on or near all powered equipment used in conjunction with an aircraft.*
- *Antenna tip caps, NSN 5820-00-437-2353, will be installed on M151 radio antenna and will not be placed less than 7 feet above the ground when clip is fastened to the antenna.*

Special C-5 safety considerations, TO 1C-5A-1.

- *When jet engines are running, personnel and equipment must not approach within 50 feet of an engine intake nor within 200 feet of the blast area to the rear.*
- *All loose equipment such as chocks, planking, maintenance stands, etc., must be removed from any area that will be affected by blast from aircraft taxiing out of a parking position. Wind blast speeds exceeding 35 miles per hour can be expected within 500 feet aft of the engine. Speeds at 200 feet will be nearly 70 miles per hour.*
- *Fire extinguishers are available along the side walls of the C-5A cargo compartment should they be needed (TO 1C-5A-1).*
- *Care must be used in movement around pen doors and hatches and on the loading ramp of the cargo compartment (TO 1C-5A-1).*
- *Cargo floor level in an unknéeled position is 9 feet from ground level.*

HAZARDOUS MATERIALS

Hazardous material is defined as any material that is flammable, corrosive, an oxidizing agent, explosive, toxic, radioactive, or unduly magnetic (i.e., sufficient magnetic field strength to cause significant deviations to the compass sensing devices of an aircraft). Shipment of these materials by air presents temperature, pressure, and vibratory conditions which differ from those encountered when shipping by surface means, and compliance with the provisions of AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D is imperative (apps F and H).

Exceptions to the provisions of AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D can be authorized by waiver or by deviation. Specific guidance for obtaining waivers may be found in the manual cited above.

A deviation is authorized for load configurations conforming to the type I, II, and III loads in table 2-1, AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D, and to the additional instructions and limitations imposed by paragraph 2-2 of that publication. However, deviation authorization does not relieve the transported unit from compliance with other instructions concerning labeling and manifesting.

When the load configuration does not conform to one of the type loads in table 2-1, a deviation from the requirements of AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D can be authorized by the major commander having operational control over the aircraft, provided all instructions in paragraph 2-2 are observed.

A waiver can be obtained for movement of noncompatible items, for packaging not authorized, or for new items by compliance with paragraph 2-2, AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D.

The specific requirements and procedures for marking and labeling of all hazardous material or equipment will be identified as early as possible, but not later than during the initial planning. Qualified personnel (para 1-20, AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D) will be provided as certifying officials to perform the required documentation (app H).

AUTOMATIC DATA PROCESSING

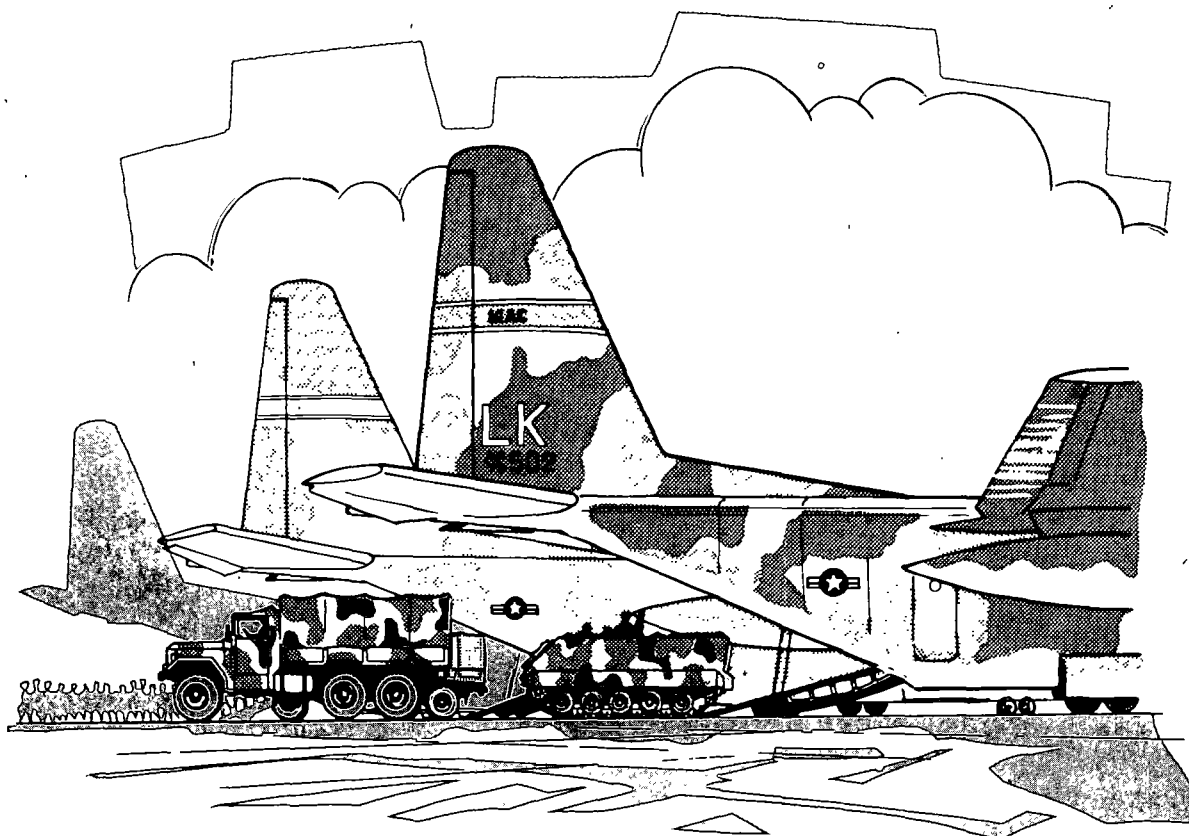
Commanders will make available necessary automatic data processing (ADP) support, if required, to facilitate ADP-assisted documentation for personnel and/or equipment manifests. This assistance is particularly valuable for airborne operations.

Where ADP formats vary from the forms shown in the appendixes, the ADP format may be substituted provided accurate and appropriate load data are depicted.

Chapter 6

DEPLOYMENT UNDER WARTIME CONDITIONS

Using (deploying) units and MAC must attempt to optimize the load of all MAC aircraft during peacetime training, exercises, and contingencies. During periods of wartime deployments, however, the use of MAC airlift resources becomes critical. MAC will accelerate the use of its air fleet by increasing the productive use of all aircraft. The user must insure that aircraft offered for movement are loaded to the maximum extent possible.



The Strategic Airlift Deployment Improvement Program (SADIP) has been developed to get the best possible use out of the weight and cube carrying capabilities of the aircraft. Principles of the SADIP program are directly applicable to wartime deployments. The following special procedures will be implemented upon MAC declaration that wartime emergency rates are in effect:

- The DACG will coordinate with the ALCE to determine if the allowable cabin load (ACL) for aircraft has been increased. Every effort will be made to attain the specified emergency ACL.
- Vehicles and equipment will continue to be loaded to assure aircraft safety of flight; however, the 6-inch dimensional clearances between loads will be waived to allow compressed loading of the aircraft. This will permit loads such as two 1/4-ton, M151 trucks to be loaded abreast in the C-141 aircraft.
- Lighter equipment which can be stacked on top of other prime movers will be consolidated to compress loads; e.g., 1/4-ton trailer loaded on top of the rear of a 1/4-ton truck, shored and secured to the floor of the aircraft. The major con-

straint to be considered is that the load does not exceed the floor bearing pressure of the aircraft and conforms with the limitations outlined in appendix C.

- Cargo vehicles such as the 1/4-ton, 2-1/2-ton, and 5-ton trucks will be loaded with unit equipment and cargo to the maximum highway (improved road) capacity of the vehicle. The major constraint to be considered is the same as stated above.

The primary objective of an emergency airlift deployment will be to close combat forces into an area of operations as rapidly as possible using the minimum number of aircraft. The requirement for detailed coordination between the deploying units/DACG and Air Force/MAC counterparts cannot be overemphasized. Deploying units, therefore, must use available aircraft to the maximum capacity and capability.

APPENDIX A

REFERENCES

Department of Defense Publications

DOD Reg 4500.32-R

DOD Reg 4515.13R

DOD Reg 5030.49R

JCS Pub 1

(C)JCS Pub 15

MIL-A-8421

MIL STD 129

MIL STD 1366

MIL-HDBK-758B

Joint Service Publications

AFM 2-50/FM 100-27

AFR 71-4/TM 38-250/
NAVSUP PUB 505(Rev)/
MCO P4030.19D

AR 1-35/AFR 400-27/SECNAV
INST 4000.20B/DNA
INST 4000.19

AR 59-4/AFR 55-40/
OPNAV INST 4630.24A/
MCO 13480.1A

AR 59-8/AFR 76-38/
OPNAV INST 4630.18D/
MCO 4630.6C/DSAR 4500.9

AR 59-18/AFR 76-13/OPNAV
INST 4600.21/MCO 45631.8

AR 59-105/AFR 76-30/OPNAV
INST 4630.13B/NAVMC 1169

Military Standard Transportation and Movement Procedures.

Department of Defense Air Transportation Eligibility Regulations.

Customs Inspection.

Dictionary of Military and Associated Terms.

Mobility System Planning Compendium (U).

Military Specification, Air Transportability Requirements, General Specification For.

Marking for Shipment and Storage.

Packaging, Handling, Storage and Transportation System Dimensional and Weight Constraints, Definitions of.

Military Standardization Handbook: Special Handling Data/Certification For Shipments Via Military Aircraft.

US Army/US Air Force Doctrine for Tactical Airlift Operations.

Preparation of Hazardous Materials for Military Air Shipment.

Basic Policies and Principles for Interservice, Interdepartmental, and Interagency Support.

Airdrop Inspection Record/Malfunction and Activity Reporting.

Military Airlift Command - Requirement Submissions, Space Assignments and Allocations, and Priorities.

Management of System 463L Pallets and Nets.

Aerial Ports.

AR 59-106/AFR 76-7/OPNAV
INST 4660.1/MCO 4660.1

AR 70-44/AFR 80-18/OPNAV
INST 4600.22A/MCO
4610.14B/DSAR 4500.25

FM 21-305/AFR 77-2

FM 55-13/AFM 76-12

FM 55-19 (TEST)/AFR
76-17 (TEST)

FM 57-1/AFM 2-51

TM 55-450-10/1; AFM 76-3

TM 55-450-10/2; AFM 76-4

Army Publications

AR 70-47

AR 220-10

AR 310-25

AR 310-50

FM 55-15

FM 100-5

TB 55-46-1

TM 10-500 (Series)/FM 10-500 (Series)

TM 21-306

TM 55-450-15

TM 55-604

Air Force Publications

AFM 2-4

AFM 3-2

AFM 3-21

AFM 11-1 (Vol I)

Operation of Air Force Air Terminals

DOD Engineering for Transportability

Manual for the Wheeled Vehicle Driver.

Air Transport of Supplies and Equipment: Standard
Loads in Air Force C-5 Aircraft.

Support of Contingency Forces by Air Lines of
Communication.

US Army/US Air Force Doctrine for Airborne
Operations.

Air Transport of Supplies and Equipment: Standard
Loads in US Air Force C-130E Aircraft.

Air Transport of Supplies and Equipment: Standard
Loads in Air Force C-141 Aircraft.

Engineering for Transportability

Preparation for Oversea Movement of Units (POM).

Dictionary of United States Army Terms.

Authorized Abbreviations and Brevity Codes.

Transportation Reference Data.

Operations.

Standard Characteristics (Dimensions, Weight, and
Cube) for Transportability of Military Vehicles and
Other Outsize/Overweight Equipment.

Airdrop of Supplies and Equipment.

Manual for the Tracked Combat Vehicle Driver.

Air Movement of Troops and Equipment
(Nontactical).

Troop Movement Guide.

Tactical Air Force Operations - Tactical Airlift.

Tactical Base Operating Manual.

United States Air Force Strategic Airlift.

US Air Force Glossary of Standardized Terms.

AFM 11-2

AFR 76-2

AFR 127-101

TO 1-1B-40

TO 1C-5A-1 and -9

TO 1C-130A-9

TO 1C-141A-9

Military Airlift Command
Regulations (MACR) 55-25

Air Force Manual of Abbreviations.

Airlift Planning Factors.

Ground Accident Prevention Handbook.

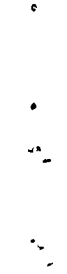
Handbook of Weight and Balance Data.

Loading Instructions, USAF Series C-5 Aircraft.

Loading Instructions, USAF Series C-130 Aircraft.

Loading Instructions, USAF Series C-141 Aircraft.

Airlift Control Element (ALCE).



APPENDIX B

UNIT MOVEMENT OFFICER

Unit Movement Officer (UMO)

In each company (troop, battery, or squadron) size air transportable unit, a UMO and an alternate UMO should be appointed. A senior noncommissioned officer may be appointed as his/her assistant. These individuals should be service school or unit trained and be thoroughly familiar with:

- Air Force organization and terms pertaining to airlift (airborne) operations.
- The air transportability of the unit's organic equipment.
- Characteristics and capabilities of the type of aircraft which the unit may use in an airlift.
- The contents of this manual.
- The contents of Army Technical Bulletin 55-46-1, FM 55-13 (AFM 76-12), TM 55-450-10/1 (AFM 76-3), TM 55-450-10/2 (AFM 76-4), and TM 55-450-15.

Duties of the UMO

The duties of the UMO are as follows:

- Acts as representative of the transported unit commander.
- Supervises air movement training of the unit.
- Prepares necessary air movement plans.
- Coordinates and supervises marshaling and outloading of the unit.
- Effects liaison with the DACG.
- Assists in offloading and reassembling of the unit at the arrival airfield.
- Maintains a current UMO folder.
- Prepares a locally designed load checklist and helps prepare the unit's load plans using the appropriate passenger/cargo manifests (app C).

- Inspects manifests for accuracy.
- Coordinates necessary communications.
- Keeps commander informed of all aspects of operation.
- Insures that the aircraft load checklists contain the following:

Plane chalk number and type of aircraft.

Proper vehicles in load.

Vehicles marked with chalk number of aircraft.

Vehicles marked with center of balance and weight.

Vehicles loaded properly.

Drivers briefed.

Canvas and other loose items secured.

Vehicle fuel tank not more than three-fourths full; vehicles/equipment loaded on aircraft ramp not to exceed one-half full.

Troops (how many).

Condition of vehicles (no oil or fuel leaks) (app F).

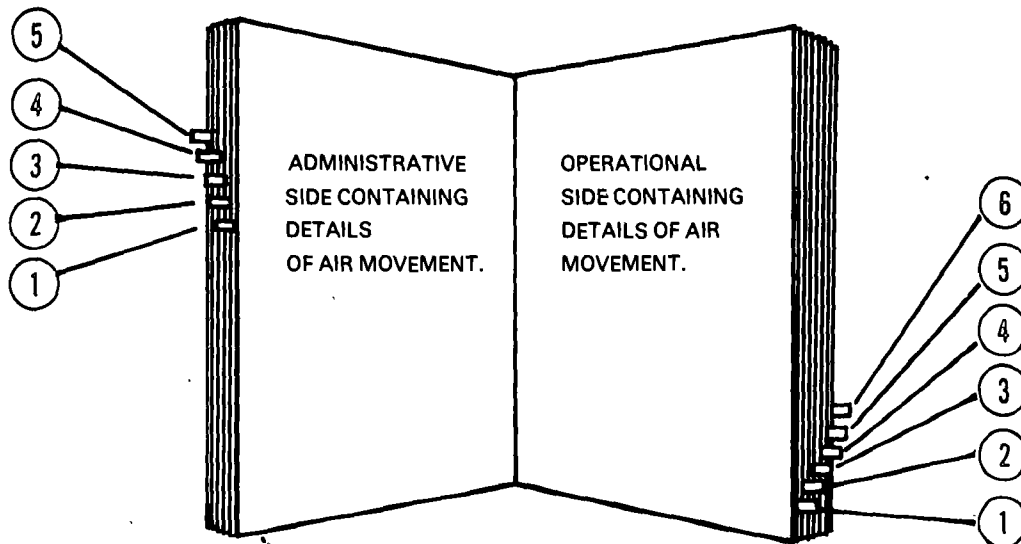
Troops properly equipped and briefed on emergency and safety procedures.

Special handling data/certification accomplished as required (app H).

Unit Movement Officer Folder

Each UMO should maintain a folder containing all the documents deemed necessary for an air movement. The folder should be divided into two sections, an administrative and an operational side (see illustration).

THE UNIT MOVEMENT OFFICER FOLDER



The administrative section contains the following:

- ① Index section.
- ② Unit SOP for air movement including notes from previous operations.
- ③ Unit order appointing the UMO and NCO assistant.
- ④ List of pertinent references.
- ⑤ Names and orders of personnel who are school trained or otherwise qualified to certify hazardous loads (AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D).

The operational section contains the following:

- ① Index cover sheet.
- ② Basic planning guide and related worksheets.
- ③ Weight and dimensions data on unit vehicles and equipment.
- ④ Manifest forms with carbons.
- ⑤ Planning data on transport aircraft.
- ⑥ Any other data required for the air movement.

APPENDIX C

AIRCRAFT LOAD PLANNING

Load Plan

The loading plan drawn up in joint conferences contains information about the total number of personnel and the total amount of equipment to be airlifted, the allowable cargo loads, and the general sequence of movement.

Load planning permits adjustment to conform with changes in the number and type of aircraft and variations in the allowable cabin load (ACL) for individual aircraft.

There are two types of aircraft loading for unit moves, i.e., tactical loading and administrative loading:

Tactical loading requires the arrangement of personnel and the stowage of equipment/supplies in a manner designed to conform to the anticipated tactical operations of the unit. Each item is placed aboard the aircraft so that it can be rapidly offloaded.

In administrative loading, personnel and/or cargo must be arranged so that maximum use is made of carrying capacity (ACL) and cabin space. Administrative loading may disregard unit integrity or offloading sequence.

Frequently it is necessary to quickly offload transported equipment at the destination airbase. This requirement may be due to the tactical situation, airfield saturation, danger to the aircraft, need to conserve aircrew time, or the short total time available for delivery of the entire force. In such cases, efficient use of aircraft may be sacrificed by the following procedures:

- Trailers will remain coupled to prime movers.
- No cargo, other than accompanied baggage of passengers on each aircraft, will be loaded on the floor or ramp of aircraft

carrying wheeled or tracked vehicles, vehicle-mounted equipment, or aircraft.

- Vehicles will be loaded on the aircraft facing the exit ramp.

Responsibilities

Airlift Control Element.

The ALCE is responsible for:

- Assisting the deploying unit in developing the load plans.
- Establishing and disseminating instructions for documenting and manifesting all traffic.
- Providing instructions for loading and offloading of aircraft and for cargo tiedown.
- Parking mission aircraft in accordance with the parking plan.
- Configuring mission aircraft in accordance with the loading plan.
- Providing loading ramps, aircraft equipment for aeromedical evacuation of casualties, floor conveyors, tiedowns and other auxiliary equipment.
- Providing technical assistance to personnel engaged in loading, tying down, or offloading aircraft.
- Verifying the documentation of personnel and equipment loaded on aircraft.
- Furnishing and operating materials handling equipment (MHE) required in aircraft loading and offloading at all sites when it or a suitable substitute normally is not organic to the shipping unit, the transported unit, or the unit accepting delivery.
- Granting final load acceptance or rejection.

Deployment Planners and/or Deploying Unit

The deployment planners and/or deploying unit are responsible for:

Establishing the priority and sequence for the movement of transported unit personnel, equipment, and supplies.

Preparing aircraft load plans to incorporate priorities for movement and to include provision for all personnel, equipment, and supplies that make up the deploying unit configured for the specific mission, and for coordination of the planned aircraft loads with the ALCE.

Preparing personnel and cargo for air movement.

Marking each major item of equipment to show weight and, when appropriate, the center of balance.

Documenting and manifesting all loads of transported unit personnel, equipment, and supplies.

Directing, monitoring, and accomplishing the movement of ground traffic to the departure airfield or loading area and accepting delivery at destination.

Delivering properly packaged supplies and equipment to the DACG in accordance with the loading plan.

Briefing and supervising the deploying unit's vehicle operators.

Operators must understand the airfield traffic procedures and safety precautions to be observed while driving around and near aircraft.

Insuring that the deploying unit's personnel are seated in the aircraft with seatbelts fastened, prepared for flight, and available for briefing at the designated airborne station time.

Providing required shoring for vehicles and equipment to be loaded or to protect aircraft floors.

Load Planning

When all vehicles, equipment, and personnel have been selected for airlift and movement priorities have been established, the passenger/cargo manifest forms for the appropriate type aircraft will be completed. See sample DD Forms 2130, 2131, and 2132 and instructions at the end of this appendix.

Each aircraft will be used to its maximum capability based on information (including applicable ACL's and available passenger seats) obtained at the joint planning conference.

If an ACL and passenger seat availability has not been specified, the data shown in the aircraft load planning table may be used for advance planning of aircraft loads. This data is for initial planning purposes only. Accurate ACL information is subject to variables such as type of mission, destination distance, weather, operational priorities, airfield conditions, and individual aircraft characteristics.

Vehicles, equipment, and cargo to be air transported must have at all times a minimum clearance of 6 inches between the top/sides of the load and aircraft interior during loading and flight. The dimensional data shown in the table is intended only for basic guidance as to vehicle/equipment size limits and should be used with extreme caution.

The configuration of the vehicles/equipment to be air transported or airdropped must allow emergency access from the front to the rear of the aircraft and allow safe loading/offloading.

For C-130 aircraft a minimum clear space on the left side of the aircraft (when facing forward) of 14 inches wide by 72 inches high, or 30 inches wide by 48 inches high, must be maintained at all times. Catwalks must be kept free of all cargo to allow passage of crewmembers.

In aircraft floor loading, axle loads, wheel loads, tire footprint loads, and general floor loads, as determined from the plan view of the equipment, must conform to the fuselage zone and compartment limitations for the aircraft concerned. Detailed allowable floor and roller load limits can be found in the Technical Order -9 for the particular aircraft. Units having ex-

Aircraft Load Planning Data.A

Cargo Compartment Data	C-130	C-141	C-5
Length (inches)	470	840	1,454
Width (inches)	120 ^B	123	228
Height (inches)	108	109	162
ACL (pounds) ^C	25,000	50,000	100,000 ^D
Troop Seats ^E	74	102	20/73 ^F

A The dimensions shown are maximum aircraft cargo compartment values. They do not take into consideration required clearance safety factors, certain physical restrictions and limitations within the cargo compartment area, nor do they consider the impact of the aircraft ramp angle or the angles of approach and departure of vehicles to be loaded.

B The floor is limited to a clear width area of 105 inches because of the A/A32H-4A rail system. This limitation is applicable for a height of 5.5 inches (top of the rail system).

C For specific and accurate ACL, passenger limits, and load specification information, consult MAC airlift units referenced.

D Peacetime planning factor.

E Standard passenger weights are:

Combat equipped soldier . . . 240 pounds

Parachutist 260 pounds

F Peacetime/contingency planning factors.

tremely heavy/outsize equipment should emphasize this during JA/ATT and seek technical assistance prior to load planning. Palletized and platform loads must not exceed aircraft roller load limits.

The minimum restraints used to prevent cargo movement in any direction are called restraint criteria. Expressed in units of the

force of gravity¹ or load factor, minimum restraint criteria are as follows:

Forward	3.0 g ²
Aft	1.5 g
Lateral	1.5 g
Vertical	2.0 g

¹One g is equal to the weight of the equipment. Thus, for example, 3 g would be a force of three times the equipment weight. Force directions provided above are relative to the aircraft.

²In the event nuclear cargo is loaded, the forward restraint criteria will be 8 g's. Consult MAC airlift units for specific guidance.

For airdrop of vehicles/equipment, consideration must be given to the necessary auxiliary equipment, such as platforms, parachutes, webbing straps, and energy dissipating material to absorb impact shock and vibration. Rigged loads must meet the following size limitations:

Width: The overall width must not exceed 108 inches. Items exceeding this width require a safety or flight waiver.

Height: The overall height of the rigged load must be such as to maintain adequate clearance between the load and the aircraft structure during airdrop and emergency gravity drop.

Weight and balance of individual aircraft will be accomplished by Air Force loadmasters. Responsibility for full aircraft use, however, rests with the deploying unit.

Air Landed Element

To assist in long-range planning, units assigned to air landed elements will prepare aircraft loads based on the following factors:

- Plan for use of either C-141 or C-130 as basic aircraft for movement of all equipment and general cargo that can be transported by that aircraft.
- Plan for use of C-5 aircraft for equipment outsize to the basic aircraft, plus other equipment and general cargo, to make full use of floor space and ACL.
- Include a minimum of two passengers in each aircraft load of equipment or general cargo.
- Include one operator and one assistant for each self-propelled vehicle except 1/4- and 1/2-ton trucks which require only an operator.
- Passenger and baggage weights

Passenger: 240 pounds (includes web gear, individual weapon and ammunition, handbag, and organizational equipment carried by individual).

Accompanying baggage: 60 pounds per duffel bag. Plan on one bag per passenger (passenger weight may be increased to 300 pounds to eliminate the requirement for a separate entry for accompanying baggage).

Other baggage: Include with general cargo.

- Determine actual weight and dimensions for all vehicles and equipment to be loaded.
- Plan to load trailers and semitrailers in the same aircraft as their prime movers, wherever possible.
- General cargo (supplies, unaccompanied baggage, and unit equipment other than vehicles and outsize/overweight items):

Use cargo compartments of cargo vehicles. Cargo carried in the vehicle cargo bed must be restrained to the vehicle or aircraft floor and must meet the same restraint criteria as outlined previously. Such a unit load (vehicle plus cargo) must likewise conform with the same restraint criteria.

Within ACL, use available floor space in aircraft loads of equipment for unitized general cargo.

- Insure that the equipment items are complete in type, quantity, and configuration; that the weight, dimension, and number of packages of supplies is correct; that the number of personnel indicated in the planned loads accurately describes the unit's readiness for movement and is the same as the movement data reported by the unit to the force commander and/or major command. Replacement of equipment items, after submission of movement data and planning of aircraft loads, must be reflected in a corrected movement data report and appropriate changes made to the planned aircraft loads.

Instructions for Use of DD Forms 2130, 2131, and 2132

Forms are designed for use in load planning and documenting cargo and passengers to be airlifted during unit moves and other than MAC channel missions..

Except for the aircraft schematic, the three forms are the same. The front side serves as a load planning sheet and cargo manifest. The back side is a passenger manifest, including the antihijack statement.

Sidewall seats are indicated on the C-130/C-141 aircraft and may be shaded out when used. For peacetime planning, the C-5 has 20 passenger seats available; for contingency situations, there will be 73 passenger seats available.

Instructions for Accomplishment

Item 1 - Unit:
Name or number of unit being airlifted.

Item 2 - Unit Identification Code:
Code assigned to unit being airlifted.

Item 3 - Type Plan:
If an exercise, enter the exercise name. If it is a special assignment airlift movement (SAAM), enter the SAAM number. If contingency, enter strategic or tactical airlift.

Item 4 - Date:
The date of airlift.

Item 5 - Unit Aircraft Load No.:
The number identifying the specific load and the total loads to be airlifted for a particular unit; e.g., 5 of 47.

Item 6 - Mission No.:
Air Force assigned mission number (completed by Air Force personnel).

Item 7 - Aircraft No.:
Last five digits of the aircraft serial number (completed by Air Force personnel).

NOTE: Blocks 7A and 7B (completed by Air Force personnel) applicable to C-5A only.

Item 8 - Airlift Unit:
Name of the MAC airlift unit.

Item 9 - Departure Airfield/ETD:
The actual geographical name of the departure airfield and estimated time of departure.

Item 10 - Destination/ETA:
The actual geographical name of the scheduled arrival airfield and estimated time of arrival.

Item 11 - Actual Loadout:
Aircraft schematic scale is: C-130/C-141 - 1/8-inch equals 1 foot; C-5 - 1/4-inch equals 3 feet. The position of cargo being airlifted will be shown on the schematic.

NOTE: Vehicles should be backed into the C-130/C-141. If it is necessary to drive a vehicle into the aircraft, this will be shown by an arrow.

Item 11A - Load Sequence:
Numerical sequence for loading items aboard the aircraft (completed by deploying unit load planners; may be changed by Air Force personnel when situation so dictates).

Item 11B - Item Model and Nomenclature/Description:
An in-the-clear description of the item, e.g., M35A2 2-1/2-ton truck, pallet, etc.

Item 11C - Vehicle Package No.:
Bumper or package number, e.g., HQ 13.

Item 11D - Serial Increment No.:
If a bumper number or package number is not available, enter the serial number.

Item 11E - Remarks:
Enter any pertinent information concerning the item; i.e., shoring requirements, reduction in height requirement, etc.

Item 11F - Planning Data:
Planned length, width, height, and weight from actual measurement, Army Technical Bulletin 55-46-1, or vehicle data plate.

Item 11G - Actual Data:
After item has been prepared for airlift, the actual maximum height, total cube, gross weight, and center of balance (CB) measured in inches from the front bumper or forward edge toward the rear.

Item 11H - Fuselage Station:
Fuselage station in the aircraft where the CB of the item is located (completed by Air Force personnel).

Item 12 - Passenger Seats:
Air Force personnel will indicate the number of seats available; the actual number

of seats used is furnished by the transported force.

Item 13 - Date Approved:
The date the Air Force approves the load.

Item 14 - Name, Grade, and Organization of Approving Official:

Typed or legibly printed name, grade, and unit of assignment of Air Force individual approving the load.

Item 15 - Signature:
Approving individual's signature.

REVERSE SIDE
OF FORM

1. UNIT		2. UNIT IDENTIFICATION CODE		3. TYPE PLAN		4. DATE		5. UNIT AIRCRAFT LOAD NO.	
6. MISSION NO. (1)		7. AIRCRAFT NO. (1)		7A. KNEELING MODE ONLOAD (1) ☐ YES ☐ NO		7B. KNEELING MODE OFFLOAD (1) ☐ YES ☐ NO		8. AIRLIFT UNIT	
9. DEPARTURE AIRFIELD/ETD		10. DESTINATION/ETA							
11. ACTUAL LOADOUT									
SCALE - 1/4" = 3 FEET									
407 454 524 564 604 664 704 744 784 824 864 904 944 984 1064 1106 1148 1188 1231 1303 1383 1453 1523 1603 1675 1764 1844 1924 2007 2048 2126									
12. PASSENGER SEATS									
MAXIMUM NO. AVAILABLE (1) NO. USED									
13. DATE APPROVED (1)									
14. NAME, GRADE AND ORGANIZATION OF APPROVING OFFICIAL (1)									
15. SIGNATURE (1)									
(1) To be completed by Air Force personnel.									

DD FORM 2130
1 SEP 77

C-5A PASSENGER/CARGO MANIFEST

Page of Pages

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Item 19 - Destination:
Same as item 10.

NOTE: Additional forms may be used as required; however, all cargo must be listed on page 1 of the schematic.

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Seven copies are required for CONUS movement:

Parachute Element

The provisions of load planning shown herein and in appendix F apply to the preparation of equipment and supplies for airdrop, except when those instructions conflict with requirements of the tactical plan.

- 1 copy - Departure airfield ALCE**
- 1 copy - Departure airfield control group (DACG)**
- 1 copy - Loading team chief**
- 1 copy - Aircraft loadmaster**
- 1 copy - Arrival airfield ALCE**
- 1 copy - Planeload/troop commander**
- 1 copy - Arrival airfield control group (AACG)**

DD FORMS
2131, 2132

DD FORM 2131
1 SEP 77

Page of Pages

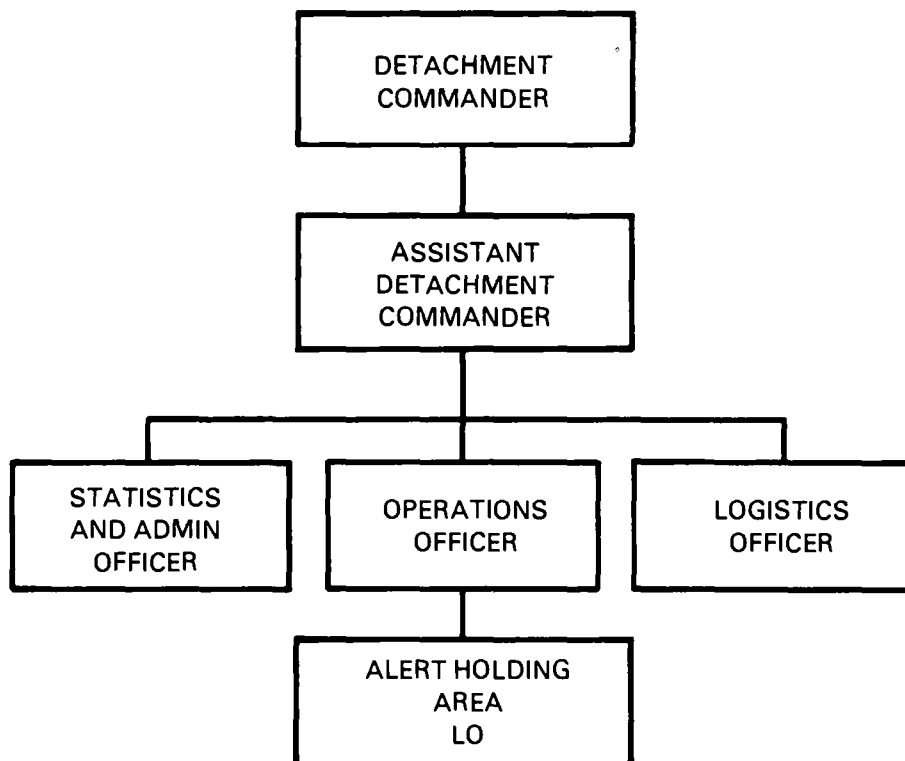
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APPENDIX D

LIAISON DETACHMENTS OF TRANSPORTED UNIT

The commander of the transported unit should be kept informed of the current situation and activities at the departure and arrival airfield. To best accomplish this, a liaison detachment may be established. Size and composition of the liaison detachment will be determined by the deploying (transported) unit commander.

RECOMMENDED UNIT DACG/AACG LIAISON DETACHMENT MANNING TABLE



RECAP OF PERSONNEL

OFFICERS:	6
ENLISTED:	<u>0</u>
TOTAL	6

Departure Airfield Unit Liaison Officers

Unit Liaison Detachment Commander/Assistant Detachment Commander:

- Represents the unit commander at the departure airfield.
- Assists the commander of the DACG.
- Briefs all personnel assigned to the unit DACG liaison detachment.
- Coordinates, supervises, and controls the unit liaison detachment.
- Coordinates use of DACG communications to the unit, and establishes additional means when required.

Unit Liaison Assistant Detachment Commander/Operations Officer

Principal assistant to the detachment commander and responsible to the detachment commander for the expeditious processing of the unit through the departure airfield:

- Informs the unit of changes to planned movement
- Provides detachment commander with vehicle traffic flow plan.
- Insures communications are operational.
- Informs detachment statistics officer of any changes to movement plan which may affect accurate reporting.

Alert Holding Area Liaison Officer:

- Is the chief assistant to the operations officer.
- Relays to the unit liaison detachment commander any instructions received from the alert holding area control officer.
- Issues special instructions, received from the alert holding area control officer, to alerted planeload commander.
- Expedites movement of aircraft loads from the unit marshaling area to the alert holding area.

Statistics/Administrative Liaison Officer:

- Is responsible to the liaison detachment commander for providing required data to the DACG statistics officer on which to base reports required by higher headquarters.
- Notifies DACG administrative officer of any incidents/accidents at the departure airfield.
- Coordinates with DACG administrative officer for use of personal services provided by the Air Force base.

Logistics Liaison Officer

Responsible to the detachment commander for coordinating with the DACG logistics officer for the location and use of:

- Water supply points.
- Medical facilities.
- Latrine and shower facilities.
- Fuel supply and fuel drainage area.
- Billeting.
- Materials handling equipment.
- Messing facilities.
- Laundry facilities.
- Maintenance contact teams.

Arrival Airfield Unit Liaison Officers

Unit Liaison Detachment Commander:

- Represents the unit commander at the arrival airfield.
- Assumes control of planeloads from AACG.
- Briefs all personnel assigned to the unit AACG liaison detachment.
- Coordinates, supervises, and controls the unit liaison detachment.
- Establishes communication as required.

Unit Liaison Assistant Detachment Commander/Operations Officer

Principal assistant to the detachment commander and responsible to the detachment

commander for the expeditious receipt and processing of the unit through the arrival airfield:

- Expedites movement of cargo and personnel to the holding area.
- Provides unit with airfield diagrams and route maps to holding areas.
- Insures communications are operational.
- Furnishes and controls guides for escorting planeloads to unit holding areas.

Statistics/Administrative Liaison Officer

Responsible to the detachment commander for providing data to the AACG statistics officer on which to base reports required by higher headquarters. Also responsible for providing the detachment commander with any information received from the AACG statistics officer which will affect the completion of the unit's mission. This information will include the following:

- Personnel and equipment scheduled for movement from the departure airfield, including departure time.
- Names of transported unit personnel killed, injured, or hospitalized.

Logistics Liaison Officer

Responsible to the detachment commander for coordinating logistic requirements of the unit at the arrival airfield:

- Coordinates with AACG logistics officer for required ground transportation to move unit from the arrival airfield.
- Coordinates use of materials handling equipment.
- Coordinates with the AACG logistics officer for maintenance support of unit vehicles which have become disabled after arrival at the airfield.



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APPENDIX E

INSPECTION CHECKLIST

Tasks

For instructions on properly preparing vehicles, equipment, and cargo for air movement and/or airdrop, refer to AFR 71-4/TM 38-250, TM 55-450-15, and the appropriate TM 10-500 series. Additional precautions and considerations are:

- ☐ **Cleanliness.** Vehicles must be free of dirt, mud, snow, ice, etc.
- ☐ **Leak Check.** Vehicles must be free from fluid leaks (e.g., oil, fuel, coolants, etc.). Insure fuel, oil, and battery caps are tightened.
- ☐ **Tire Pressure.** Tires must have sufficient inflation to prevent wheel contact with aircraft flooring.
- ☐ **Markings.** Vehicle weight and CB location must be clearly visible (spot weighing of vehicles may be directed by ALCE personnel).
- ☐ **Fuel.** All fuel tanks must be securely closed to prevent fuel spillage.
 - Vehicle tanks will not be more than three-fourths full. (When positioned on the aircraft ramp area, tanks will be no more than one-half full).
 - Fuel tankers will be drained and purged.
 - Five-gallon cans may be filled to maximum fill level if the seal is serviceable and will not leak.
 - Generator fuel tanks will contain the minimum fuel possible, but must conform with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D. Empty generator fuel tanks do not require purging.

Responsibilities

☐ MAC airlift control elements (ALCE) or mission support teams (MST) are responsible for approving all aircraft loads, supervising the loading/offloading and tiedown of

vehicles/cargo, and assuring adherence with applicable Aircraft Technical Order -9 loading procedures.

☐ Deploying units are responsible for complete preparation of troops and equipment in accordance with existing directives, and they accomplish documentation of troops and equipment as outlined in appendix C.

☐ Due to the joint responsibilities involved, it is necessary to prescribe, accomplish, and document joint inspections before loading. The joint inspection of aircraft loads will be performed by a qualified representative of the deploying unit, a member of the DACG, and the ALCE. Discrepancies found during the inspection will be corrected by the deploying unit and checked again by the joint inspection team.

Inspection Procedures - Airlift

☐ All inspections will be conducted jointly and a completed DD Form 2133 (Joint Airlift Inspection Record) will indicate to the aircrew loadmaster that the required inspection has been accomplished. It will be used as the checklist for the joint inspection. Instructions for preparations are shown on the back side of the form.

☐ No formal after-load inspection is required, as all noted discrepancies are corrected before loading.

☐ Three copies will be completed for each aircraft load and signed by appropriate personnel.

- One signed copy will be attached to the aircraft cargo manifest for information of the aircraft crew.

- The ALCE representative and the representative of the deploying unit performing the joint inspection will each keep one signed copy.

DD Form 2133 (Joint Airlift Inspection Record) (Front)

JOINT AIRLIFT INSPECTION RECORD									
1 UNIT BEING AIRLIFTED				2 DEPARTURE AIRFIELD			3 DATE		
4 TYPE ACFT AND SERIAL NO		5 MISSION NO		6 LOAD/CHALK NO		7 TIME COMPLETED		8 ALCE	
LEGEND (Mark blocks after each item as follows) ☒ = Satisfactory X = Unsatisfactory N/A = Not applicable				INCREMENT/SERIAL/BUMPER NUMBER AND TYPE					
A PREPARATION									
9. Clean (No dirt, trash, pests)									
10. No fluid leaks									
11. Scale weight (Both sides)									
12. Center of balance (Both sides)									
13. Fuel tanks 1/4 to 3/4 (1/2 aircraft ramp)									
14. Fuel tank caps (As required)									
15. Jerry cans secured (Maximum 5 gallons)									
16. Size reduction - antennas, bows									
17. Dimensions (Fits aircraft envelope)									
18. Battery secured									
19. Vehicle equipment secured									
(a) Axe, shovel, pick									
(b) Spare wheel, tools, bow									
20. Mechanical condition									
(a) Engine runs									
(b) Brakes									
21. Tire pressure (Maximum 100 PSI)									
22. Tie down points									
23. Pins for pins, hooks and levers									
24. Tankers (Drained and purged)									
25. DD Form 1387-2 (As required)									
26. Manifests - number of copies									
B ACCOMPANYING LOAD									
27. Secured to vehicle - 1 Gs, 3 Gs									
28. Within rated capacity									
29. Compatible cargo (IAW AF R 71-4)									
30. DD Form 1387-2 (As required)									
C SPECIAL REQUIREMENTS									
31. Shoring, rolling, packing									
32. Ramp									
D PALLETS									
33. Dimensions - width, height									
34. DD Form 1387-2 (As required)									
35. Compatible with other cargo									
36. Cargo properly secured									
(a) N/A									
(b) Chained									
37. Inventory list of dangerous materials on the pallet - signed by the shipper									
E HELICOPTERS (If applicable)									
38. Battery disconnected									
39. Fuel quantity - 1/4 to 3/4 full									
40. Scale weight (Both sides)									
41. Center of balance (Both sides)									
F CORRECTED ITEMS				43 REMARKS					
42 BLOCK NO	LEGEND	42 CORRECT	LEGEND						
A		F							
B		G							
C		H							
D		I							
E		J							
44 TRANSPORTED FORCE INSPECTOR SIGNATURE				45 AIR FORCE INSPECTOR SIGNATURE					

DD FORM 2133
1 SEP 77

DD Form 2133 (Joint Airlift Inspection Record) (Back)

PREPARATION AND USE OF DD FORM 2133 JOINT AIRLIFT INSPECTION RECORD

1. Responsibilities:

- a. MAC aerial port personnel assigned to Mission Support Teams (MSTs) are responsible for approving all aircraft loads, supervising the loading/offloading and tying down of vehicles/cargo and assuring compliance with applicable TO -9 loading procedures
- b. The transported unit is responsible for establishing precedence of movement to the marshalling area and the preparation of troops and materiel, including documentation for air movement in accordance with existing directives
- c. Due to joint responsibilities, it is necessary to accomplish and document joint inspections of equipment prior to loading. The inspection of aircraft loads will be performed by qualified representatives from the aerial port MST and the transported force.

2. Inspection Procedures:

- a. All inspections will be conducted jointly by qualified aerial port and transported force representatives. The completed form will indicate to the aircraft loadmaster that the required inspection has been accomplished. No formal after load inspection is required as all noted discrepancies are corrected prior to loading.
- b. DD Form 2133 will be utilized as the document for the joint inspection. Three copies will be completed for each aircraft load and signed by appropriate personnel.
 - (1) One signed copy will be attached to the aircraft cargo manifest
 - (2) The MST and transported force representative will each retain a signed copy.

3. Preparation Instructions:

- a. Heading:
 - (1) Block 1, *Unit Being Airlifted*. Enter the numerical designation and geographic location of the military unit responsible for the equipment being airlifted. For example: HHC 172 D INF BDE Ft Richardson, Alaska
 - (2) Block 2, *Departure Airfield*. Enter the name of the facility the airlifted unit is departing; i.e., Elmendorf AFB, AK.
 - (3) Block 3, *Date*. Day, month and year that the inspection is accomplished.
 - (4) Block 4, *Type Aircraft and Serial Number*. Enter the type, model, series and complete serial number of the aircraft on which the equipment is loaded
 - (5) Block 5, *Mission Number*. Enter the mission number as designated in the plan or operations order.
 - (6) Block 6, *Load/Chalk Number*. Enter the user assigned unit aircraft load number that establishes the desired load movement sequence.
 - (7) Block 7, *Time Complete*. Enter the local time that the load has been checked and is ready for movement.
 - (8) Block 8, *ALCE*. Enter the numerical designation of the unit that has MST/ALCE responsibility for the operating location.
- b. Body:
 - (1) The increment/serial/bumper number and type of equipment will be entered in the appropriate block. The legend for completing the inspection is contained in block on the left. The appropriate entry will be annotated in the proper column. There will only be one entry in each inspection block for each item.
 - (2) Items not initially accepted will be entered in Section F when the corrective action has been completed.
 - (3) Block 43, *Remarks*, will be used as required.
 - (4) Blocks 44 and 45 will contain legible signature.

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**DD FORM 1748
JOINT AIRDROP
INSPECTION RECORD**
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APPENDIX F

PREPARATION OF EQUIPMENT AND SUPPLIES

Air Transported Vehicles

Vehicles will normally be transported at reduced height. Where possible, dimensional reductions in width and length should also be accomplished, if allowable within tactical and operational considerations.

For general planning purposes, vehicles scheduled for air transport by C-130 and C-141 aircraft and which have an operational height over 102 inches, must be reduced in height.

Vehicles with an operational height of 102 inches or less need not be reduced.

Actual maximum height may vary and will depend on the overhang and projection for each type vehicle. Therefore, MAC representatives should be consulted on questionable situations.

Vehicles, trailers, or equipment to be loaded under the crew rest facility or on the ramp of C-130 or C-141 aircraft must not exceed 80 inches in height.

For dimensional load considerations refer to appendix C.

Equipment/Cargo in Air Transported Vehicles

Vehicles and equipment scheduled for airlift operations must make maximum use of available cabin space within the aircraft.

Equipment/cargo may be carried in the bed of a cargo truck under the following conditions:

- The maximum rated cross-country (offroad) load capacity of the vehicle is not exceeded.
- The equipment/cargo can be securely restrained in the vehicle body or chassis or on the aircraft floor.
- The restraint (tiedown) criteria for the equipment/cargo is at least the same as for the vehicle itself.

- Cargo loaded in the vehicle bed must not be higher than the side racks (metal sides of the cargo body or the removable wooden side racks).

The weight of the vehicle plus the weight of any cargo on the vehicle must be accurately determined. The vehicle and its cargo are considered as one package, and the gross weight is used to determine tiedown requirements.

If the cargo truck is to carry any cargo when it is in the aircraft, load and then weigh the truck before it is loaded aboard the aircraft.

The weight of any cargo loaded on a vehicle will change the center of balance (CB) of the vehicle. Determine the new CB in accordance with appendix G.

In some situations, different procedures will have to be used, but general adherence to those described above will provide a sound basis for safe air transport.

Other considerations for proper preparations are:

- Remove vehicle bows and stow in cargo bed. Spread canvas cover over cargo.
- Secure cargo with 1/2-inch rope (minimum thickness) using sections of rope laced laterally and longitudinally to the outside vehicle tiedown points. Insure that ropes touch the cargo, not just hold the side racks down. Do not load cargo any higher than the side racks of the truck to allow for baggage to be placed on top of the cargo.
- Vehicles should be backed into the aircraft to make offloading easier. In addition, duffel bags and web equipment can be lashed to the vehicle after loading to provide easy, safe access inside the aircraft.

- Equipment permanently installed in a vehicle will be transported as a vehicle load, regardless of height. However, this provision does not include signal shelters or other easily removed equipment which would be removed if indicated by instructions.
- Normally, vehicles will not be loaded on top of other vehicles.
- Vehicles/equipment should be prepared so as not to diminish their combat capability. Minimum preparation is all that is required. Extensive use of masking tape and wood on windows is discouraged.
- Large trucks and heavy armored vehicles should be programed for airlift in C-5A aircraft.
- Other unit supplies and equipment will be prepared as determined during the joint planning conference.

Marking and Weighing

Vehicles and outsize/overweight items must be weighed, as prepared and loaded for air movement, and must be marked with the center of balance and gross weight (chap 3).

Fuel in Air Transported Equipment

Fuel tanks of vehicles must be not more than three-fourths full. If a vehicle is to be carried on the ramp of the aircraft, maximum fill is one-half tank.

Fuel levels in tanks of rotary- and fixed-wing aircraft will be in accordance with instructions in appropriate technical manuals specific to shipping configuration used.

When required for immediate use at deployment sites, engines and other equipment with fuel tanks may be transported uncased and with fuel tanks three-fourths full.

Tankers and refuelers containing fuel are not authorized for air movement. They will be emptied, purged, and labeled in accordance with appropriate technical directives.

Collapsible fuel containers may be filled with fuel for air movement. If empty, they may be shipped without being purged, but must be labeled in accordance with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D.

Water Tanks

Water tanks and water trailers will be empty.

General Cargo

General cargo may be carried in or on any type vehicle as long as the cargo can be properly secured and restrained.

Supplies and equipment not loaded into vehicle cargo compartments will be secured on 40- by 48-inch pallets, or packed in CONEX inserts or other suitable containers. Do not exceed 1,000 pounds per insert nor 2,000 pounds per pallet. Pallets and inserts will be identified in the unit's load plans.

CONEX Containers

Use of CONEX containers must be approved by the forces commander. Request for approval must show that CONEX provides a distinct advantage or is an operational necessity. Approval will be based on an evaluation of the request and availability of MHE at origin and destination airfields. If CONEX containers are approved, they are not to be filled with hazardous materials.

Hazardous Materials

AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D provides instructions for preparation, packaging, and handling of hazardous materials for shipment aboard military aircraft. These instructions are intended to insure that such materials are properly prepared for airlift.

- For complying with AFR 71-4/TM 38-250, participating troops are not considered passengers.
- When applying the type of load configurations listed in table 2-1, AFR 71-4/TM 38-250, one or more of the items

may be omitted, but in no instance will items not previously approved as a part of the type load be added, unless in an approved plan.

- For simplifying the required documentation, paragraph 2-2b, AFR 71-4/TM 38-250 should be followed. Sample DD Form 1387-2 for appropriate hazardous items is provided in appendix H.

Helicopters

Information and guidance concerning loading procedures for helicopters can be found in TM 55-450-10/1, TM 55-450-10/2, and FM 55-13. Instructions for preparing helicopters for transport can be found in the appropriate Army -S series technical manuals.



APPENDIX G

CENTER OF BALANCE DETERMINATION

Introduction

The center of balance (CB) of cargo items must be determined to accurately compute the weight and balance condition of a loaded aircraft. The agency offering cargo for air shipment is responsible for marking the following cargo with the correct gross weight and a CB point: Any item weighing 300 pounds or more, any item measuring 10 feet or longer, and any item having a balance point at other than its center. In addition, vehicle-type cargo having a load carrying capability will be marked indicating an empty or loaded CB as appropriate. Also, if trucks and towed equipment are to be transported coupled, a combined CB will be computed and marked on the appropriate vehicle. Items not marked as outlined above will not be accepted for airlift, as unknown weight/CB presents an unsafe condition relative to aircraft weight and balance.

General Cargo

The CB of general cargo (cargo other than vehicles) may be determined by either of two methods--

- ① Balance the package (item) on a roller and mark the balance point.
- ② Weigh one end of the package on a suitable scale, while supporting the opposite end as near the edge as possible.

The location of the balance point is then calculated by the following formula:

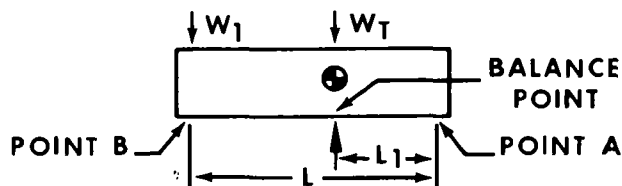
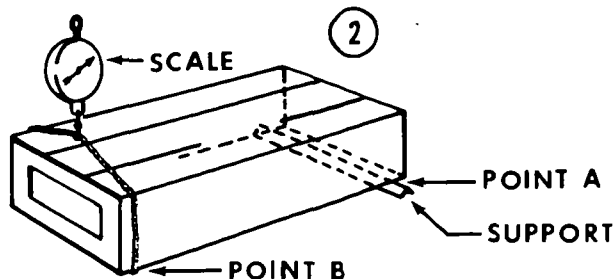
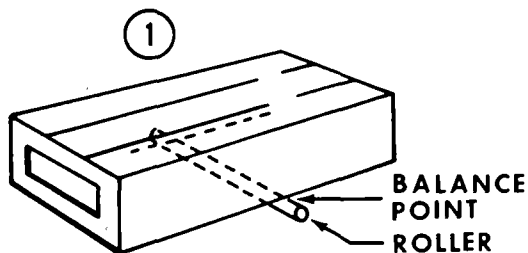
$$L_1 = \frac{W_1 L}{W_T}$$

Where: W_T = total weight

W_1 = scale reading

L = distance between supports (inches)

L_1 = distance from fixed support to center of balance (inches)



DETERMINING CENTER OF BALANCE OF GENERAL CARGO

Vehicles

The CB of vehicles is determined in a manner similar to that for packaged cargo. In the case of vehicles, the weight on the front wheels and the weight on the rear wheels should be separately determined by running the wheels on a suitable scale.

To compute the CB location of a vehicle, multiply the rear axle load by the wheelbase length (in inches) and divide by the gross weight of the vehicle. The resulting figure is the number of inches to the measured aft from the centerline of the front axle and designates the CB of the vehicle.

Example 1: The weight and dimensions for the vehicle are as follows:

Gross weight 2,350 pounds

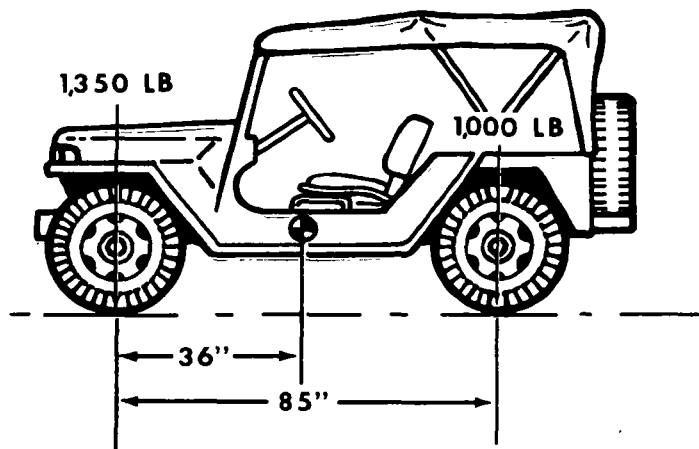
Front axle load 1,350 pounds

Rear axle load 1,000 pounds

Wheelbase of vehicle 85 inches

Multiply the rear axle load (1,000 pounds) by the wheelbase length (85 inches), and divide by the vehicle's gross weight (2,350 pounds).

$$\frac{1,000 \text{ lbs} \times 85}{2,350} = 36 \text{ inches}$$



CENTER OF BALANCE LOCATION EXAMPLE 1

Example 2: The weight and dimensions for this vehicle are as follows:

Gross weight 17,660 pounds

Front axle load 4,200 pounds

Each rear axle load 6,730 pounds

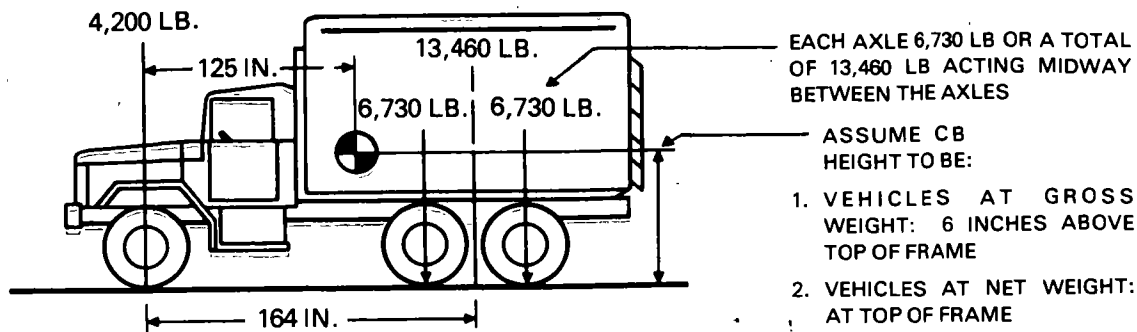
Total rear axle load 13,460 pounds

Wheel base of truck 164 inches

Multiply the total rear axle load (13,460 pounds) by the wheelbase length (164 inches), and divide by the vehicle's gross weight (17,660 pounds).

$$\frac{13,460 \text{ lbs} \times 164 \text{ inches}}{17,660 \text{ lbs}} = 125 \text{ inches}$$

The CB of the vehicle is located 125 inches aft of the centerline of the front axle.



CENTER OF BALANCE LOCATION EXAMPLE 2

To compute the overall unit CB location for the tractor-trailer load combination shown in example 3, multiply the center axle load (in pounds) by the wheelbase (in inches) from the front axle centerline to the center axle centerline. Then, multiply the rear axle load (in pounds) by the wheelbase length (in inches) from the front axle centerline to the rear axle centerline. Add the multiplied totals and divide the sum by the total load on all three axles. The vehicle CB is measured in inches aft from the centerline of the front axle.

Example 3: The weights and dimensions for the tractor-trailer are as follows:

Front axle load		6,300 pounds
Center axle load		9,300 pounds
Rear axle load		10,100 pounds
Total weight		25,700 pounds

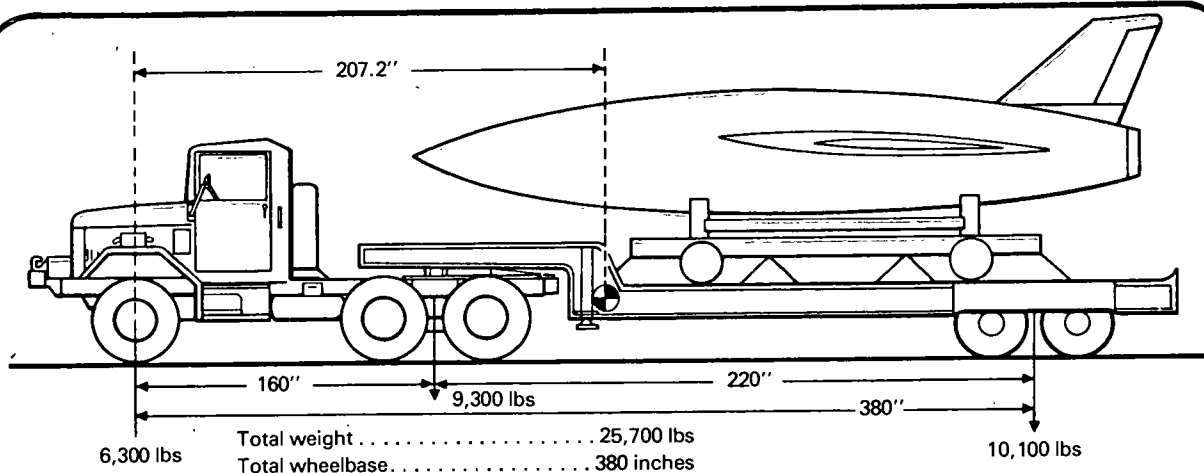
Front axle to center axle wheelbase 160 inches
 Center axle to rear axle wheelbase . 220 inches
 Total wheelbase 380 inches

Multiply the center axle load (9,300 pounds) by the wheelbase (160 inches) from the front axle centerline to the centerline of the center axle. Then multiply the rear axle load 10,100 pounds) by the total wheelbase (380 inches). Add the two figures and divide the sum by the total vehicle weight (25,700 pounds).

$$\begin{array}{r} 160 \times 9,300 = 1,488,000 \\ 380 \times 10,100 = 3,838,000 \\ \hline \text{Total} = 5,326,000 \end{array}$$

$$\frac{5,326,000}{25,700} = 207.2 \text{ inches}$$

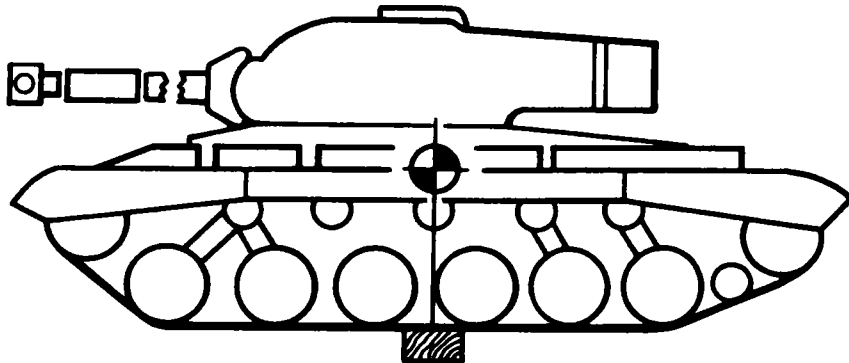
Thus, the CB for the tractor-trailer combination (including the cargo load) is 207.2 inches aft of the front axle centerline.



CENTER OF BALANCE LOCATION EXAMPLE 3

Tracked Vehicles

The CB of tracked vehicles is determined by simply driving the vehicle onto a wooden beam until it balances on top of the beam.



CENTER OF BALANCE LOCATION OF A TRACKED VEHICLE.

If scales of sufficient size are not available to determine the weight of a tracked vehicle, follow these steps:

Step 1.

Drive vehicle halfway onto scales and weigh.

Step 2.

Mark both sides of vehicle at points coinciding with edge of scales.

Step 3.

Drive other end of vehicle onto scales exactly up to the marks on the sides of the vehicle and coinciding at the same edge of the scales as in step 2 and weigh.

Step 4.

Determine total weight by adding weights of both ends (Steps 1 and 3).

APPENDIX H

SPECIAL HANDLING DOCUMENTATION

When hazardous materials, as defined in the glossary, are scheduled to be carried by military aircraft, they become subject to compliance with AFR 71-4/TM 38-250/NAVSUP PUB 505(Rev)/MCO P4030.19D.

DD Form 1387-2 (Special Handling Data/Certification) is required for all hazardous materials to be airlifted.

SPECIAL HANDLING DATA/CERTIFICATION			
TRANSPORTATION CONTROL NUMBER	NOMENCLATURE OF ITEM	NET EXPLOSIVE WEIGHT	GROSS WEIGHT
DESTINATION			
HANDLING INSTRUCTIONS		SHIPPER CERTIFICATION: This is to CERTIFY that the contents of the package in this shipment are properly described by name and are packed, marked, and in proper condition for transportation in accordance with.	
		☐ SUBPARAGRAPH _____, AFR 71-4, TM 38-250, NAVSUP PUB 505 AND MCO P4030.19 ☐ OFFICIAL AIR TRANSPORT RESTRICTED ARTICLES TARIFF 6, CAB NO. 52 ☐ OTHER (Specify) _____ ☐ SHPMT WITHIN PAX/CARGO AIRCRAFT LIMITATIONS	
DD FORM 1387-2, 1 APR 73		EDITION OF 1 APR 55 WILL BE USED. * U.S. GPO: 1574-550-540/5255	
		SIGNATURE	DATE

Instructions for completing the form and the requirements for marking, labeling, certifying, and placarding are contained in chapter 13, AFR 71-4/TM 38-250. Additional information and guidance for preparing DD Form 1387-2 is provided in DOD MIL-HDBK-758B, MILITARY STANDARDIZATION HANDBOOK: Special Handling Data/Certification for Shipments Via Military Aircraft.

Certain deviations from the requirements specified in AFR 71-4/TM 38-250 are authorized when the deviation conforms with an approved tactical, operational, or mobility plan which has been coordinated with Headquarters USAF/LGT. For specific details, refer to chapter 2 of AFR 71-4/TM 38-250.

A single DD Form 1387-2 is authorized to provide the required data for one or more items of the same type of hazardous item if the aircraft is operating as a special military mission.

Only a single DD Form 1387-2 is required when the shipment (load) involves an item with multiple hazards. Certification is then made to the highest hazard. All other hazards need only be identified by proper shipping name and hazard classification in the "Handling Instruction" block of the form.

The completed DD Form 1387-2 is attached to the specific mission cargo manifest and to all manifest copies as per distribution requirements (app C).



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APPENDIX I

DEPARTURE AIRFIELD CONTROL GROUP (DACG) CHECKLIST

DACG Commander

- ☐ Brief all personnel engaged in DACG operations.
- ☐ Establish required communications.
- ☐ Secure parking and flow plan from ALCE.
- ☐ Coordinate materials handling equipment (MHE) with ALCE.
- ☐ Insure that sufficient load team personnel with pusher vehicles are available to accomplish mission.

DACG Operations Officer

- ☐ Coordinate with ALCE to insure that personnel and cargo are guided to proper aircraft.
- ☐ Inform liaison officers of changes to movement plan.
- ☐ Brief unit commanders on vehicle flow plan.
- ☐ Maintain status of arrival, departure, and loading.
- ☐ Obtain airfield diagrams for guides.
- ☐ Insure that communications are operational between all elements of the DACG.
- ☐ Insure that support equipment, wreckers, POL (petroleum, oils and lubricants), food service, lighting, first aid, weighing devices, and contact maintenance teams are available.

Alert Holding Area Officer

- ☐ Coordinate with operations officer.
- ☐ Coordinate with unit liaison officer.
- ☐ Coordinate with call forward area officer.
- ☐ Issue special instructions to alerted aircraft loads.

Call Forward Area Officer

- ☐ Receive instructions from operations officer.
- ☐ Inspect all loads upon receipt from alert holding area.
- ☐ Inspect both passenger and cargo manifests and make corrections as necessary.
- ☐ Provide guides to escort the planeloads through loading ramp area to designated plane sites or release points.
- ☐ Inform operations officer of problems affecting movement schedule.

- ☐ Coordinate with ALCE to insure aircraft are parked and assigned numbers in accordance with the loading plan.
- ☐ Coordinate MHE with DACG and ALCE.
- ☐ Check manifests, collect in required numbers, and deliver to operations officer, DACG.
- ☐ Unload personnel/equipment from aborted aircraft and guide to spare aircraft or temporary holding area.
- ☐ Keep operations officer informed of problems that would affect the movement schedule.

Administration Officer

- ☐ Assist in preparation of or changes to passenger/cargo manifests.
- ☐ As safety representative for units involved in the movement operations, insure that all units are briefed.
- ☐ Insure that all incidents/accidents are investigated and reports prepared.
- ☐ Insure that personal and related services are provided by the base/installation for deploying units.

Logistics Officer

- ☐ Insure logistic requirements for DACG.
- ☐ Provide deploying units with point of contact for logistic support to include:
 - Water supply points.
 - Ration supply points.
 - Latrine and shower facilities.
 - Fuel supply and fuel drainage area.
 - Billeting (if required).
- ☐ Secure and supervise maintenance facilities for the DACG and deploying units.

Statistics Officer

- ☐ Compile pertinent data required by the DACG.
- ☐ Coordinate with ALCE on reports required by higher headquarters. Reporting will include, but not be limited to:
 - Personnel and equipment that have departed the departure airfield en route to the objective area.
 - Number of aircraft available for loading.
 - Number of aircraft required to complete lift.
 - Number of aborts.
 - Troops and equipment available for loading.

APPENDIX J

MARSHALING

Marshaling Process

Marshaling is the process by which units move to temporary camps in the vicinity of the departure airfield and complete preparations for aircraft loading. The marshaling area includes the temporary camps and support facilities, and is the area from which the air movement operation is initiated.

Planning

The unified/joint staff has staff responsibility for planning and supervising marshaling. Staff planning in this phase provides for the relief of deploying forces from all possible support functions to permit concentration on preparations for the movement. Support agencies designated by the unified command/joint force commander should provide the bulk of the administrative assistance, including transportation, communications, housekeeping details and, when required, to supplement Air Force security of the departure airfield, and local security personnel.

The marshaling annex of the deploying unit administrative plan contains detailed instructions for providing facilities and services, conducting briefings, movement of units to loading sites, and loading of troops and equipment into aircraft.

Selection of Camps and Departure Airfields

The selection of marshaling camps and departure airfields is based upon the air movement plan and other considerations. To avoid concentration of forces, marshaling camps normally are located at a distance from occupied departure air facilities.

Preparation

Marshaling is accomplished in the minimum possible time because of security requirements. Units complete maximum preparation before marshaling.

As early as practicable, units obtain equipment and supplies which are to accompany them into the objective area. Inspections are made to determine the status of equipment and necessary maintenance is performed.

Clothing and equipment not needed in the objective area are packed for storage and left with the rear echelon or logistical agency.

Final Preparation

Final preparation includes the following:

- Final briefings.
- Final checks to insure equipment is available and operational.
- Necessary personnel services, including currency exchange, disposition of unit funds, religious services, and mail service.
- Preparation of accompanying air delivery containers and heavy drop loads.
- Preparation of air loading plans.
- Issue of individual maps, photos, and evasion and escape (E and E) kits.
- Security inspection.
- Issue of individual assault rations, ammunition, water purification tablets, and necessary medical supplies.
- Check of air movement documentation.

MARSHALING CHECKLIST

Unit Movement Center

- ☐ Insure that communications to units are operational.
- ☐ Insure that DACG communications are operational.
- ☐ Coordinate necessary augmenting transportation.
- ☐ Organize planeload assembly point.
- ☐ Issue planeload assembly point schedule.
- ☐ Brief planeload assembly point guides and provide them with necessary signs and insignia.
- ☐ Issue strip maps and route maps to drivers and planeload/troop commanders.
- ☐ Coordinate guides to departure airfield.
- ☐ Prepare manifests in appropriate number of copies for distribution as required.

Unit Commanders

- ☐ Insure that schedule is received for movement to planeload assembly point and to departure airfield.
- ☐ Complete personnel and vehicle loads.
- ☐ Dispatch planeload assembly point guides.
- ☐ Insure that drivers and planeload/troop commanders understand actions and route to airfield.
- ☐ Brief personnel on:
 - Situation and mission.
 - Movement plan.
 - Assembly plan.
 - Operational plan.
 - Convoy discipline.
 - Loading procedures.
 - Aircraft safety and assembly procedures.
 - Transloading procedures (if applicable).
- ☐ Prepare manifests.
- ☐ Insure that each vehicle is marked with CB, weight, and chalk/mission number.
- ☐ Insure that individual helmets are marked with chalk/mission number.

APPENDIX K

ARRIVAL AIRFIELD CONTROL GROUP (AACG) CHECKLIST

Commander

- ☐ Brief all personnel engaged in AACG operations.
- ☐ Establish required communications.
- ☐ Secure parking and flow plan from ALCE.
- ☐ Coordinate materials handling equipment (MHE) with ALCE.
- ☐ Insure that sufficient offload teams with pusher vehicles are available.

Operations Officer

- ☐ Coordinate with ALCE to insure that all personnel and equipment are cleared from arriving aircraft and guided to release point or holding areas.
- ☐ Maintain current status of arrivals and departures of deploying unit personnel and equipment at arrival airfield.
- ☐ Insure airfield diagrams with routes designated to release point and holding areas are provided to the arriving units.
- ☐ Insure that communications are operational between all elements of the AACG.
- ☐ Insure that shoring/floor protection materials are retained by deploying unit.

Holding Area Officer

- ☐ Coordinate MHE use with the AACG and ALCE.
- ☐ Keep operations officer informed of problems that would affect the movement schedule.
- ☐ Collect shoring/floor protection materials from arriving units (applicable only if deploying units were instructed to dispose of shoring materials at arrival airfield).
- ☐ Return all Air Force equipment (463L pallets, nets, tiedown devices, etc.) to ALCE.

Administration Officer

- ☐ As safety representative for units involved in movement operations, brief all units.
- ☐ Investigate all incidents/accidents and prepare reports.
- ☐ Insure that personal and related services are provided by the base/installation for arriving units.

Logistics Officer

- ☐ Insure logistic requirements for AACG.
- ☐ Coordinate with unit representative at the appropriate arrival airfield area for ground transportation required to move personnel and equipment to the objective area.
- ☐ Coordinate and supervise ground transportation to move units to the objective area.

Statistics Officer

- ☐ Compile pertinent data required by the AACG.
- ☐ Coordinate with ALCE on reports required by higher headquarters.
- ☐ Reporting will include, but not be limited to:
 - Personnel and equipment that have departed the arrival airfield en route to the objective area.
 - Number of aborts.
 - Number and location of any unscheduled stops en route.
 - Name of all personnel killed or injured in any aircraft accident.

GLOSSARY

Administrative loading

A loading system which gives primary consideration to achieving maximum utilization of troop and cargo space without regard to tactical considerations. Equipment and supplies must be unloaded and sorted before they can be used.

Aerial port squadron

An Air Force organization which operates and provides the functions assigned to aerial ports to include the processing of personnel and cargo, rigging for airdrop, packing parachutes and loading equipment, preparing air cargo and load plans, loading and securing aircraft, acceptance/rejection of cargo for in-flight delivery, and supervision of units engaged in aircraft loading and unloading operations. Responsible for materials handling equipment, technical assistance for moving units, terminal services for nonaccompanied equipment, and Air Force inspection of all airlift loads.

Air assault

The assault airlanding of combat troops, equipment, and supplies into a hostile area by fixed wing transport aircraft for the execution of a tactical or strategic mission.

Air movement

Air transport of units, personnel, supplies, and equipment, including airdrops and air landings.

Air movement plan

Used in detail planning for an airlift when the airlift of troops is involved. It is prepared jointly by the respective service component commanders.

Airborne

1. Applied to personnel, equipment, etc., transported by air, e.g., airborne infantry.
2. Applied to materiel being or designed to be transported by aircraft, as distinguished from weapons and equipment installed in and remaining a part of the aircraft.
3. Applied to an aircraft from the instant it becomes entirely sustained by air until it ceases to be sustained.

Airborne operation

An operation involving the movement of combat forces and their logistic support into an objective area by air.

Aircraft commander

A pilot designated pilot-in-command of a given aircraft who is responsible for its safe operation and in command of all personnel on board.

Airland operation

An operation involving air movement in which personnel and supplies are airlanded at a designated destination for further deployment of units and personnel and further distribution of supplies.

Airlift command post

A functional element of an organization responsible for the control of airlift missions. Intent is to provide a means for centralized coordination, planning, and communications by which command supervision and control of aircraft movements are effected. It is organized and equipped to gather, analyze, process, and present operational data, as required, to control airlift forces.

Airlift control center (ALCC)

An operation center where the detailed planning, coordinating, and tasking for tactical airlift operations are accomplished. This is the focal point for communications and the source of control and direction for the tactical airlift forces.

Airlift control element (ALCE)

A functional airlift organization (provisional) established to control and support designated airlift operations. Normally, it includes an operations function such as movement control and communications, a support function which relates to the air facility itself, and a liaison with appropriate airborne or other air and ground forces units.

Airlift force

Includes military strategic and tactical airlift aircraft augmented by the Civil Reserve Air Fleet.

Air operations center (AOC)

The Air Force operations center established by the ALCE for controlling and coordinating the airlift operations and all ALCE activities.

Alert holding area

A traffic control area used to assemble and hold units or portions of units, normally located in the vicinity of the departure airfield. In this area, unit and DACG personnel review the preparation of equipment and documentation preliminary to joint inspection in the call forward area. For Air Force units this is a function of the unit assembly area.

**Allowable cabin load or
allowable cargo load (ACL)**

The amount of cargo and passengers determined by weight, cubic displacement, and distance to be flown, which may be transported by specified aircraft.

**Arrival airfield control group
(AACG)**

The organization that receives transported units from the Air Force carrier and controls them until released to their parent unit.

Call forward area

The area at the departure airfield where planeloads are assembled in a ready condition prior to being directed to the loading ramp area. The joint inspection is conducted in this area. For Air Force units this is a function of the air cargo terminal check-in point and the air passenger terminal briefing station.

Chalk

Designated troops, equipment, and/or cargo which constitutes a complete aircraft load.

Chalk number

The number affixed to an aircraft to identify its sequence for loading; the identification number given to a complete aircraft load and to the transporting carrier.

Closure time

The time at which the last element of a unit has arrived at a specific location.

Combat loading (tactical loading)

The arrangement of personnel and the stowage of equipment and supplies in a manner designed to conform to the anticipated tactical operation of the organization embarked. Each individual item is stowed so that it can be unloaded at the required time.

**Departure airfield control group
(DACG)**

The organization provided by the command which will control the unit to be airlifted from the marshaling area until released to the ALCE at the ready line. For Air Force units, the DACG functions will be performed by the movement control center (MCC) when deploying from an Air Force base/installation.

Departure air terminal

An airfield on which troops and/or materiel are loaded for flight.

Deployment

The relocation of forces to desired areas of operation or a designated location of troops and troop units as indicated in a troop schedule.

463L dunnage

Any material (boards, planks, blocks, etc.) used to support or secure pallets of the Air Force 463L Materials Handling System.

463L pallet

A flat base (platform) for the purpose of combining cargo, equipment, or a single load item to facilitate the storing, handling, and air transporting of these items with the Air Force 463L Materials Handling System.

Hazardous materials

Any material that is flammable, corrosive, oxidative, explosive, toxic, radioactive, or unduly magnetic.

Home station installation

The base, facility, or post to which an individual, group of individuals, or a unit is assigned on a nontemporary basis.

Load	A grouping of vehicles, equipment, and/or passengers to be loaded into a specific aircraft.
Loadmaster	The loadmaster is the Air Force representative responsible for overall supervision of the loading/offloading operation of an aircraft.
Load manifest	A document specifying in detail the payload expressed in terms of passengers and/or freight carried in one aircraft for a specific destination.
Load number	The number given to a complete load and to the transporting carrier. Synonymous to chalk number.
Load spreader	Material used to distribute the weight of a load over a given floor area to avoid exceeding designed stress.
Load team	A group of individuals selected from the deploying unit, DACG/AACG and ALCE providing the loading/offloading function of aircraft.
Load team chief	The senior Air Force team member (usually an ALCE representative) functioning as team chief.
Loading plan	All of the individually prepared documents which, taken together, present in detail all instructions for the arrangement of personnel, and the loading of equipment for one or more units or other special grouping of personnel or materiel moving by highway, water, rail, or air transportation.
Loading point	A point where one aircraft can be loaded.
Loading site	An area containing a number of loading points.
Marshaling	1. The process by which units participating in an amphibious, airborne, or airlanded operation group together or assemble when feasible or move to temporary camps in the vicinity of embarkation points, complete preparations for combat, and prepare for loading. 2. The process of assembling, holding, and organizing supplies and/or equipment, especially vehicles of transportation for onward movement.
Marshaling area	The general area in which units are located, and from which an air movement is initiated. For Air Force units this is normally known as the unit assembly area.
Materials handling equipment (MHE)	Mechanical devices for handling of supplies with greater ease and economy. Examples: forklift, roller conveyor, 55K, 40K, 25K, 10K, and 6K 463L loaders.

Mission support team (MST)

A small group of Air Force (MAC) personnel composed of air transportation/maintenance and/or other support functions as required. Insures support of MAC resources through airfields where no MAC facilities or no ALCE are established. A highly qualified NCO may be designated MST chief.

Outsize cargo

All cargo which due to its physical characteristics must be classified as outsize (items that are transportable, but require special instructions regarding loading procedures, lashing and tiedown, shoring and restricted locations on the aircraft, or which may be transportable partially disassembled).

Oversize cargo

Palletized cargo which due to its physical characteristics is larger than the maximum logistics pallet (463L). Cargo size is 84" x 104" x 96".

Parent organization (unit)

1. Table of organization and equipment (TOE) unit. Units, regardless of size, which have a numerical designation and unit identification code assigned by the Department of the Army (DA).
2. Table of distribution and allowance (TDA) unit. Units which have a specific descriptive designation and approved unit identification code assigned by DA.
3. An organization (unit) responsible for furnishing all or a portion of the common support requirements of another organization or unit.

Parent station

An organization (installation) designed to furnish all or a portion of the common support requirements of another installation or separate organization.

Planeload/troop commander

Designated officer, or noncommissioned officer, responsible for the aircraft load (equipment, supplies, and/or personnel) which he/she accompanies.

Pusher vehicle

Any self-propelled vehicle, such as a 1-1/4-ton or 2-1/2-ton truck, with a front bumper-mounted pintle hook (see TM 55-450-15). This vehicle is used to push disabled vehicles, trailers, howitzers, aircraft engines, etc., aboard aircraft and provides load team transportation. Normally assigned one per load team.

Ready line

The final point in the DACG where the load is positioned prior to loading. For Air Force units this is a function of the air cargo terminal marshaling area and the air passenger terminal holding station.

Serial

Any number of aircraft under one commander, usually conveying one air transportable unit or subunit to the same objective.

Strategic airlift

The continuous or sustained movement of units, personnel, and material in support of all Department of Defense agencies between area commands; between the continental United States (CONUS) and overseas; within an area of command when directed. Strategic airlift resources possess a capability to airland or airdrop troops, supplies, and equipment for augmentation of tactical forces when required.

Tactical airlift

Airlift which provides the immediate and responsive air movement and delivery of combat troops and supplies directly into objective areas through airlanding, extraction, airdrop, and other air delivery techniques; and the air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements.

Unit loading

The loading of troop units with their equipment and supplies in the same ship, aircraft, or land vehicles.



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